

7 ENGINE REPOWER ESSENTIALS ^{p52} BOATING

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TIRES

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^{p66}

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MOONLIGHT
SERENADE

**RIDE
ALONG
WITH
SEA TOW** ^{p54}

+ C-MAP 4D
IS THIS AI FOR BOATS? ^{p72}

CERTIFIED BOAT TESTS

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BELZONA 277 WALK AROUND // CREVALLE 25 BAY

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A40



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Carver

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Jeanneau

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The Carver C43 Coupe shines with its distinctive plumb bow design. Photo: Mike Fuller

PHOTOS: (CLOCKWISE FROM TOP LEFT) CAPT. VINCENT DANIELLO, COURTESY RAYMARINE, COURTESY JEANNEAU, COURTESY CARVER YACHTS

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COPY EDITOR Joy Kenyon Allen
WEB EDITOR Brian Daugherty
BOATINGLAB DIRECTOR Randy Vance
EDITOR-AT-LARGE David Seidman
CONTRIBUTORS Eric Colby, Capt. Vincent Daniello, Ken Englert, Michael Folkerts, Joe Friedman, Mike Fuller, Steve Griffin, Michael "Mick" Hannock, Jeff Hemmel, Forest Johnson, Richard Johnson, Tom King, John Linn, Charles Plueddeman, Capt. John N. Raguso, Ed Sherman, Heather Steinberger, Richard Steinberger, John Tiger Jr., Capt. John Page Williams, John Wooldridge
ILLUSTRATORS Tim Barker, Tim Bower, Colin Hayes
CORPORATE PRODUCTION DIRECTOR Jeff Cassell
GROUP PRODUCTION DIRECTOR Michelle Doster
DESIGN SERVICES DIRECTOR Suzanne Oberholtzer
GRAPHIC DESIGNERS Julia Arana, Jennifer Remias
HUMAN RESOURCES DIRECTOR Sheri Bass
GROUP PUBLISHER/BRAND DIRECTOR Glenn Sandridge
407-571-4747; glenn.sandridge@bonniercorp.com
PUBLISHER/BRAND MANAGER John McEver
407-571-4682; john.mcever@bonniercorp.com
NORTHEAST SALES MANAGER Matt White
212-779-5405; matt.white@bonniercorp.com
MARKETPLACE/CLASSIFIED SALES MANAGER Brian Luke
407-571-4788; brian.luke@bonniercorp.com
DIGITAL SALES MANAGER Mike Staley
407-571-4803; mike.staley@bonniercorp.com
VICE PRESIDENT, DIRECTOR OF BRAND STRATEGIES Matt Hickman
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Editorial

By Kevin Falvey



A Sign from the Times

MAKING A BOAT A POLITICAL FOOTBALL ... AND FUMBLING!

IN A RECENT POST ON boatingmag.com, we asked you whether you thought U.S. Sen. Marco Rubio's (R-Florida) EdgeWater 245CC constitutes an extravagance and whether it is a "luxury speedboat," as reported by *The New York Times*. The consensus of those who shared was that it was not.

Now, I'll share my opinion. *The New York Times* was right, at least partially.

The facts are that, unless you are a crabber working the Bering Sea, a clam digger working Great South Bay or a water-taxi operator working Biscayne Bay, in short, if you bought your boat for recreational purposes, it is, de facto, a "luxury boat."

A roto-molded canoe from a yard sale or a big-box store is also a luxury. Like an outboard-powered center-console, it serves to fill the leisure time of its owner. Both result from the expenditure of discretionary dollars. To the argument that the greater cost of the center-console makes it more luxurious, I say that luxury, like honesty, is not a matter of degree. Owning either boat is a luxury. Period.

Furthermore, while a boat like the EdgeWater, operated safely, can take one out over the horizon for the day, it cannot do what a canoe can do. I defy anyone to deem such a boat luxurious were it to be planted in some mountain stream. There, those with a canoe travel with speed, style and maneuverability.

So, we thank *The New York Times* for stating the obvious: All boats are luxuries. But speedboat? The newspaper needs to do some homework.

All boats have speed. Is a Corvette or a Ferrari a "speed car"? Just where does the term *speedboat* come from? It sounds like something Capt. Merrill Stubing might say to Julie McCoy aboard *The Love Boat*. But the bigger question — TV sitcoms notwithstanding — is why is *The New York Times* using it?

Steve Eder and Michael Barbaro, who penned the piece, apparently lack sea legs. In

fact, I am sure they do. Anyone who terms a 24-foot open boat a "luxury speedboat" never tried using a port-a-potty when the wind was blowing 20 knots.

Furthermore, *The New York Times* did not trouble itself to seek expert opinion. Had it bothered to ring up qualified sources such as the American Boat and Yacht Council, American Powerboat Association, Society of Naval Architects and Marine Engineers, National Association of Marine Surveyors, National Association of State Boating Law

▶ **Anyone who** terms a 24-foot open boat a "luxury speedboat" never tried using a port-a-potty when the wind was blowing 20 knots.

Administrators, Society of Accredited Marine Surveyors, National Marine Manufacturers Association or the publication you are reading, it could have saved face and published the correct term. For that matter, why didn't the reporters call EdgeWater and ask the builder what kind of boat it is?

Boating has no stake in Rubio's campaign. My aim is to ensure that society doesn't view boaters in the wrong light. After all, extravagant means profligate, unreasonable and wasteful.

If spending quality time with family and friends on the water, in the very womb of nature, while honing age-old skills and keeping alive traditions is extravagant, then that is a luxury we should be proud to have achieved.

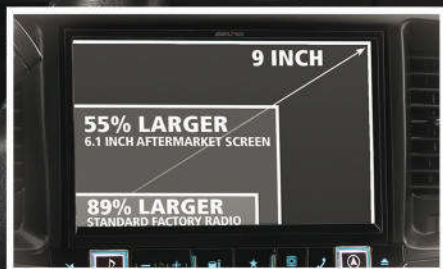
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AS BIG AS YOUR ADVENTURE



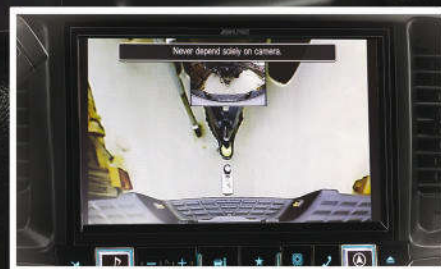
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Making Waves

ON BOARD WITH ...

Jake Owen Country Music Star

Jake Owen is a bona fide country music powerhouse who grew up boating and fishing in Florida. He's been working with Discover Boating to help promote the boating lifestyle. We caught up with him (where else?) on a boat right before he was about to go wakesurfing. — Pete McDonald

MORE
ONLINE!



To read the full
interview online,
go to boatingmag.com/jakeowen.



You grew up in Florida around a lot of water. Did you boat a lot as a kid?

I was born in Winter Haven but we moved to Vero Beach when I was 3 or 4. We were always on the water, surfing in the ocean, kneeboarding and wakeboarding in the Intracoastal, and fishing. My parents used to water-ski at Cypress Gardens.

What type of boat do you currently own?

I own a Malibu 23 Wakesetter LSV that's awesome for wakesurfing.

I'm guessing that boat has a great stereo.

Oh, yeah. Next to the size of the wake and the cooler, the sound system is most important.

Your videos, like "Barefoot Blue Jean Night" and "Days of Gold," show wakeboarding and wakesurfing on the lake.

That's me. I've always liked to include my real life in my videos. Country music relates to everyday life, and the more real you are with people, the more fans can relate to it. Plus, music is part of many people's on-the-water experience.

Is that you catching crazy air in the video for "Barefoot Blue Jean Night"?

Yes, when I was wakeboarding, I always tried to jump as high and as far as I could. I was addicted to it.

Now you're really into wakesurfing. What's the main appeal?

It's conversational; you can talk to the person as they're doing it because they're so close. And if you fall, it doesn't hurt. Anyone can do it. I just taught my dad to do it and he's loving it.

Do you ever get on the water and do a little boating or boarding when you're on tour?

I try to with the craziness. Just put me on a boat somewhere and it feels good.

PHOTO: COURTESY DISCOVER BOATING



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→ FOR COMPARISON'S SAKE

Synthetic Teak

Synthetic teak can give a boat owner the best of both worlds. He gets the beautiful, rich look of classic teak without the backbreaking work required to maintain it. Synthetic teak feels forgiving underfoot and can enhance a boat's appearance. For DIY boaters, most companies offer the material in a roll or as a single pre-cut piece. Here are three popular choices in synthetic teak. — *Eric Colby*



PlasDECK

THE GRIP: PlasDECK is the sister product to PlasTEAK. PlasDECK is the outdoor version while PlasTEAK is used for interior areas. PlasDECK's patented formula won't dry out and harden from exposure to the elements. It also has the highest-grade ultraviolet protection and anti-fungal agents. It comes in a roll or an owner can measure an area and send in the specifications for a pre-made mat.

THE SLIP: It requires the proprietary "sausage glue" and "sausage gun" to install.

PRICE: About \$20 per foot for a 2-inch-wide roll-and-glue, or about \$35 per square foot to have a mat built; plasdeck.com



Flexiteek 2G

THE GRIP: Flexiteek says its second generation of synthetic teak decking, known as 2G, is up to 35 percent lighter than competitive decking systems, which could draw interest from owners of performance boats. The 2G system also has improved heat-reflecting properties and has been developed to reduce thermal transfer in hot climates.

THE SLIP: Installation requires a troweled-on adhesive. Also, DIYers can't buy it in a roll, only as a custom-cut deck.

PRICE: Ranges from \$30 to \$50 per square foot for a custom-cut piece; flexiteek.com



SeaDek

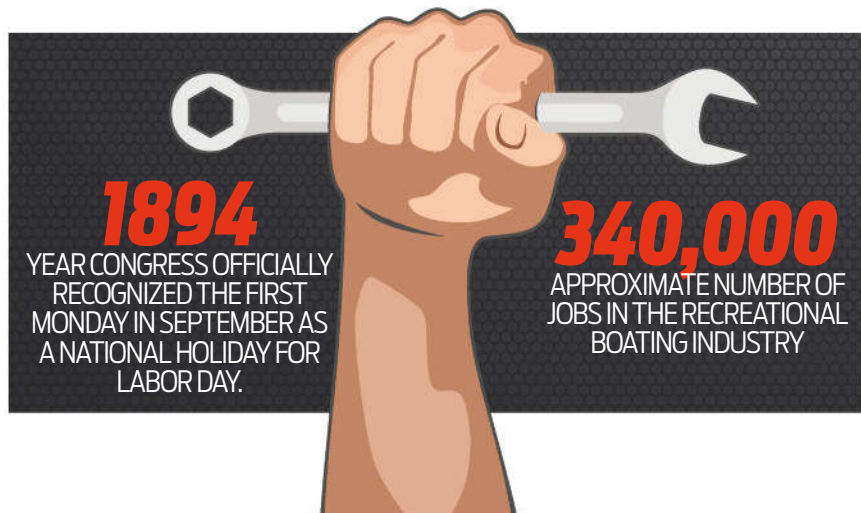
THE GRIP: Made in the USA and formulated with 3M acrylic pressure-sensitive adhesive, SeaDek's robust, peel-and-stick application makes it easy to install. Easy to clean and stain-resistant, SeaDek also provides protection for boat surfaces, exceptional traction on board even when wet, comfort underfoot and shock absorption while you stand on it while running in rough seas.

THE SLIP: Like all teak-colored coverings, it may get too hot for bare feet.

PRICE: Available in large (39 by 77 inches) or long (18 by 74 inches) sheets starting at \$77.95, or can be custom-cut; seadek.com



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"I SHOULD HAVE SPENT
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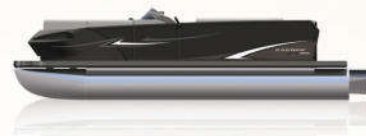
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Captain's Test

Boat Fuels

Fuel is the one thing every powerboater has in common; whether it's gas or diesel – or even the new propane and natural gas alternatives – clean-burning fuel is an imperative for a good day on the water. Think you know your power source? Take our quiz. – *Eric Colby* (Answers on p. 20)

❶ We've all heard about the problems associated with ethanol in gasoline. Which of the following treatments combats the negative effects of ethanol?

- A. Star brite Star Tron
- B. ValvTect's Ethanol Gasoline Treatment
- C. Marine-formula Sta-Bil
- D. All of the above

❷ Engine oil is the other important petroleum product on board. What's the best way to check its health in the middle of the season?

- A. Just make sure it's full and you'll be fine until fall.
- B. Empty it and refill the oil, but you don't need to do the filter.

C. Take a sample and send it out for analysis.

D. As long as you don't see any milky white fluid in the oil, which is an indicator of water in it, you've got no worries.

❸ Owners of diesel-powered boats don't have to worry about ethanol, but what is a key element of a diesel-fuel treatment?

- A. It prevents bacteria and algae growth in the tank.
- B. It prevents smoke on start-up.
- C. It prevents backfiring.
- D. All of the above

❹ Regardless of what type of fuel you've been burning this summer, what other part of your fuel system needs to be cleaned?

- A. The fuel fill
- B. The fuel tank
- C. The lines
- D. Nothing else. The engine additive cleans everything.

❺ What is biobutanol?

- A. A steroid used by professional athletes
- B. An alcohol-based fuel
- C. A new vodka
- D. A social disease



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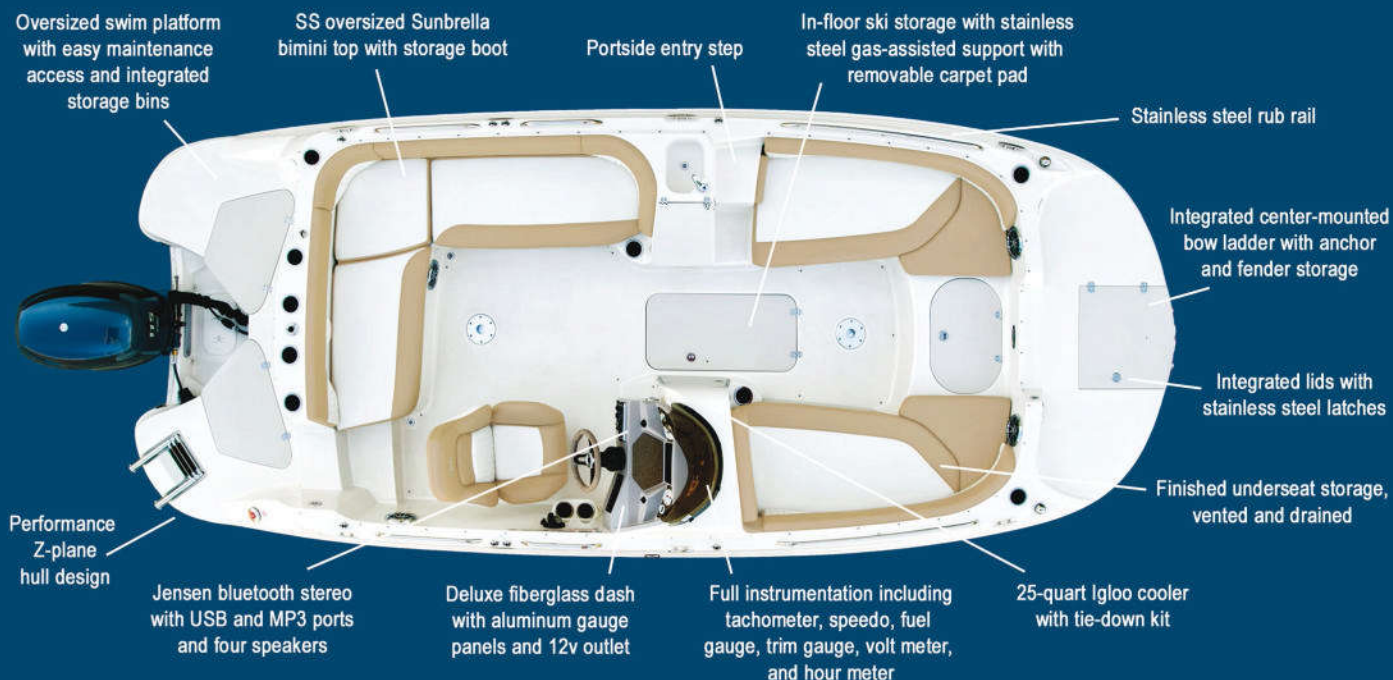


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▶ Captain's Test

(ANSWERS FROM P.18)

- 1 D. They all claim to combat ethanol-related problems.
- 2 C. Florida Marine Engine Surveyor (enginesurveyor.com) performs oil spectrometer analysis (\$45 to \$50 per sample), or take your own sample with the Amsoil oil analyzers test kit (\$32.50, amsoil.com). The postage is prepaid and Amsoil mails you the results.
- 3 A.
- 4 B. Star Tron tank cleaner costs \$40 to \$49. Algae-X's AFC-705 (algae-x.net) is a concentrated additive that costs \$35 for an 8-ounce bottle.
- 5 B. Biobutanol is an alternative to ethanol that is still in development. We have been following the "butanol" story for over a year now. Follow along at boatingmag.com/isobutanol-boats.

ILLUSTRATIONS: COLIN HAYES

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Online This Month

Here at *Boating* headquarters, we think it's time to think about your boat's trailer and tow vehicle. **1** For trailering pointers and to take a closer look at tow ratings for a new tow vehicle, you'll find our Ford Tow Guide an incredible resource at boatingmag.com/tow-ratings. **2** Also, there's some salient advice on selecting the right boat trailer at boatingmag.com/selecting-boat-trailer. **3** If your current trailer just needs a little TLC, learn how to rewire it at boatingmag.com/rewire-your-boat-trailer.



YOUR GUIDE TO TOWING
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TOW RATINGS 1991-2015 MODELS
Trailer Weight Ratings, also known as tow ratings or tow limits, are available here for new tow vehicles sold in North America. Some results also include additional tow-related notes specific to that particular make and model.

Search by year, make, and model or trailer weight.

Please note that we have data for the years 1991 through 2015.

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F-150 Reg. Cab, Lo

TRAILER WEIGHT
5,000
10,000

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2015	Ford	Expedition 4WD	5.4L V-8	9,200lbs	
2015	Ford	Expedition EL 2WD	5.4L V-8	9,000lbs	



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The Boat Doctor

Q&A

By Michael “Mick” Hannock



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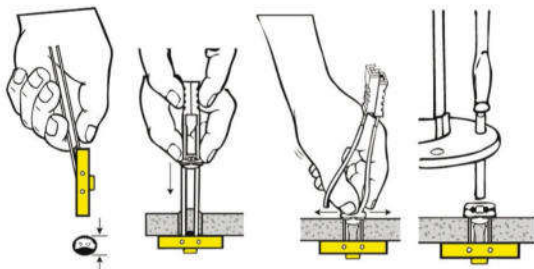
A Step Ahead

[Q] Hello. I am the owner of a 1990 Sea Ray 230 CC. I love this boat and I've made many great memories on it. Due to my health, I need to replace the factory two-step, underplatform ladder with a three-step. The original equipment manufacturer is no longer in business, so I purchased a Windline three-step ladder. It was the closest to original and the one Sea Ray recommended. My problem is the mounting bracket holes don't line up. Due to the way the platform is designed, I can't use a backing plate, and the factory will not tell me what is in the core of the platform. Any help you can suggest on how to mount the new ladder would be appreciated. Thank you. Great magazine!

WALLY OLDHAM

Charlotte, North Carolina

[A] There are kits of “mollies” or “toggles” sold for installing boat seats. One such kit is made by The Toggler, and it supplied the installation graphic shown. These will make a secure installation for you. You may have to drill out the holes on the ladder's bracket to



accommodate the diameter. These are available from marine suppliers such as defender.com (and there are others on the market that are sold by other suppliers).

Idle Wild

[Q] Doctor, my 1976 Sea Ray is powered by a 233 hp MerCruiser (Ford 302). The carburetor



Most boat stripping succumbs to a heat gun and some peeling. It's the adhesive residue that's the real chore to remove. Solvents prove useful, but you'll need a scraper as well. Razor blades and carbide scrapers can scratch or gouge fiberglass. Instead, use an old credit card. It speeds the job without damaging your boat. We have found it most effective to apply the solvent and then immediately scrape with the credit card before the solvent evaporates and the glue recongals. Wear protective gear and be fire conscious whenever working with solvents.

— *Kevin Falvey*

has been rebuilt, and I have installed a new alternator and battery.

Here is my problem: The engine stalls when I shift out of neutral. This occurs more often after the engine has warmed up. Please advise. Thank you.

BOB KOWELL

Parma Heights, Ohio

[A] It could be the shift interrupt switch, or you might need to adjust the shift cable. But since you say it happens most after the engine is warm, I bet the idle is set too low (despite the recent carb rebuild). That engine needs to idle at 650 rpm *in gear*, not in neutral. If the idle speed is set with the engine in neutral, after it's warm, the idle speed drops and the engine can stall.

Vent-Fitting Vex

[Q] My boat's fuel tank vent fitting was damaged when another boater banged into my boat during a docking incident. (It was the only damage I incurred; his boat was deeply gouged.) I need to replace the fitting and have run into a snag.

I was able to unscrew the somewhat deformed chrome bonnet or cap on the hull exterior. Removing that reveals a low-profile fitting with about five threads, but without any obvious place to fit a wrench or other tool. Inside the hull, the vent fitting is rather massive and T-shaped and has a hexagonal portion that would appear to serve as a landing for a wrench.

How do I turn the fitting on the inside when I cannot grab the outside portion of the fitting?

ALEX PAPADOPOULOS

New York, New York

[A] A picture would be helpful, though by your description, I think I have seen that type of fitting before. The “outside” piece threads into the “inside” piece and is probably just hand tight. Try simply

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The Boat Doctor

pressing on the outside with a finger and turning counterclockwise. It should come off.

When you replace the vent, make sure the opening of the bonnet or cap or cover is facing down and aft (think 8 o'clock). This position is the least likely to let water into the tank via either rain or spray from the boat itself.

Double Clamps?

[Q] Hi, Doc. I have always heard that it is best to use double hose clamps when securing hoses aboard a boat. I understand and agree with the reasoning: that vibration and corrosion are less likely to cause two clamps to fail. But while installing a new fuel tank recently, I discovered that there was no room on the barb of the tank fitting for two clamps. Is there a solution?

MARK CARBONE

St. Paul, Minnesota

[A] The American Boat and Yacht Council standards do require double

clamped connections in certain applications. Even where double clamped hoses are not required, I believe it is a good idea for the reasons you cite. Fuel systems, bilge-pump connections and through-hull



fittings located below the waterline are all examples of places I would recommend double-clamping hoses to fittings.

Like you, I have run into fittings that would not accept a second clamp. The only solution for this

dilemma — presupposing, of course, that a double clamped connection is required and/or you desire such a connection — is selecting a different fitting with a longer barb. Using clamps with narrower bands is not generally acceptable. The clamping pressure and area of clamping is exponentially less with narrow band

clamps; therefore, using two narrow clamps may be less secure than using only one clamp with a wider band. Good luck with the job.

Early Warning?

[Q] Mick, this is not really a maintenance question, but I want your advice. My boat has no place to tie off the bitter end of the anchor rode. I want to mark the line near the end as an early warning, in order to avoid losing the anchor and rode. Should I use those ribbons they sell in the marine store? Paint? Magic marker? What?

DANNY HOLCOMBE

Atlanta, Georgia

[A] Tie three figure-eight knots in the line. One 50 feet from the end, the next 30 feet from the end and the last 10 feet from the end. Knots provide a visual and tactile warning and cost nothing.

Decisions, Decisions

[Q] Dear Boat Doctor, can you tell me whether using locknuts is better than

PHOTO: COURTESY WEST MARINE

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The Boat Doctor

using a separate nut and a lock washer? A \$20 bet hinges on your answer. Thank you.

RON MULIERI

Boston, Massachusetts

[A] Compared with a lock washer and standard nut, the locking nut (aka locknut, nylock nut, etc.) has the advantage of becoming only one piece of bilge detritus when you drop it, instead of two.

Seriously, the locking nut allows the installer to work with fewer small parts. Additionally, the locking nut's rounded end can make for a finished fastening that won't scrape or cut skin that rubs across it. On those two counts, I'll say a locking nut is better than a separate nut and lock washer in most instances.

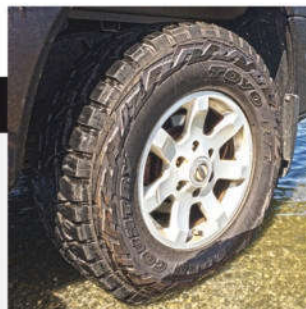
ASK THE DOCTOR

Send questions with your name and address to: boatdr@boatingmag.com or The Boat Doctor, *Boating*, 460 N. Orlando Ave., Suite 200, Winter Park, FL 32789.

(WE TEST STUFF)

Toyo Tires

I have been running Toyo Open Country R/T tires on my full-size pickup for the last year while racking up over 17,000 miles. I've used them in soft beach sand while fishing and surfing; run through the deep snow of a record-breaking New York winter; been hub-deep in mud while hunting; and hauled my boat from the unimproved ramps endemic to my area. My truck is also my daily driver, so the Open Country R/Ts saw plenty of traffic and time on secondary roads and highways. They delivered better traction in all these conditions than the "LT" (light truck) rated tires they replaced, which wasn't a



surprise given the deep, aggressive treads (showing little wear to date). But what was surprising is that ride quality and noise levels remained excellent during "normal" driving. They cost

about \$310 each and come with a 45,000-mile tread-wear warranty. Read my extended review online at boatingmag.com/toyotires. toyotires.com; 800-442-8696 — K.F.

PHOTOS: KEVIN FALVEY

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Seamanship

By Pete McDonald



Post-Game Analysis

INSPECTING YOUR BOAT RIGHT AFTER A TRIP COULD SAVE YOU HEARTACHE ON YOUR NEXT OUTING.

THERE'S AN OLD COWBOY SAYING ABOUT HAGGARD-LOOKING horses that describes them as "rode hard and put away wet." That's because horses are supposed to be groomed and brushed out after a long day under the saddle to prevent their coat from getting matted and their hooves from being damaged and to keep them from getting sick in general.

I think of this after taking the boat out for a spin because most boaters inspect the boat before heading out to sea — as they should — but don't do much to the boat after coming home, other than spraying it down with the hose. Scrubbing it clean is important, but take a few extra minutes for inspection too.

Sure, you may be tired from a long day on the water, and in some cases, there may be just a few minutes before the sun sets, but having a post-game inspection routine can be great for your boat in the long run. Here are a few things to check before you retire your boat to the stable.

Engines

Check the engine temperature to make sure it's still running within normal operating range. Before shutting off, check the telltale stream on your

outboard to make sure it's still flowing. Did you pick up some clogging debris? Better to know now.

Props

Trim your outboard's or sterndrive's lower unit out of the water, or as far up as you can, to inspect for any dings or damage. With the engine off, give the prop a quick spin with your hand so you can see or hear any stray fishing line wrapped around the prop shaft that's pinging inside the barrel. Also, how are those zincs?

Batteries

Give the battery a quick check with a voltmeter to see if it registers 12.6 volts. That will let you know whether your alternator's doing its job. Check the connections too.

Oil

As far as the oil level, different manufacturers have different guidelines for checking when the engine's hot or cold, so do whatever it says in your owner's manual. Checking the oil after running, though, is a great



time to gauge engine health. Pull the dipstick and wipe the oil on a clean rag. If the oil looks milky, you could have water contamination. If it has a burned smell, your engine could be overheating. If you see any metal shavings, it could indicate larger internal engine problems.

Filters

Inspect for water or debris in your fuel filters to see if you have any contamination.

Electrical Connections

Check if any electrical connections worked loose during the run home.

Hoses and Belts

Did any hose clamps work loose during the run? Do the hoses or engine belts show any cracks or signs of

aging, wear and tear? If you've just returned from heavy seas, it's better to check sooner rather than later.

Bilge

Poke your head into the bilge. Is there excessive water? Check the bilge pump to make sure it's working, both from the helm and taking a look at the automatic float switch. Are all of your seacocks closed properly? Look for cracks and leaks that could sink your boat.

Fittings

If you pull your boat from the water, check all the through-hull fittings for corrosion, cracks or clogs. If you leave your boat in the water, check all the scuppers and outboard drains for clogs that could keep water from draining.



Tools of the Trade

Some of your boat's stowage should be saved for the spares and tools needed to make quick repairs. Carry an emergency kit like the West Marine tool kit (\$64.99, westmarine.com) on board. Also, fill some Ziploc bags with spare hose clamps, seacock handles, electrical tape and zip ties, and throw in a spare fuel filter. — P.M.

PHOTOS: COURTESY WEST MARINE (5), COURTESY INTERSTATE BATTERIES (MARINE/RV DEEP-CYCLE BATTERY), COURTESY MERCURY MARINE (OIL)

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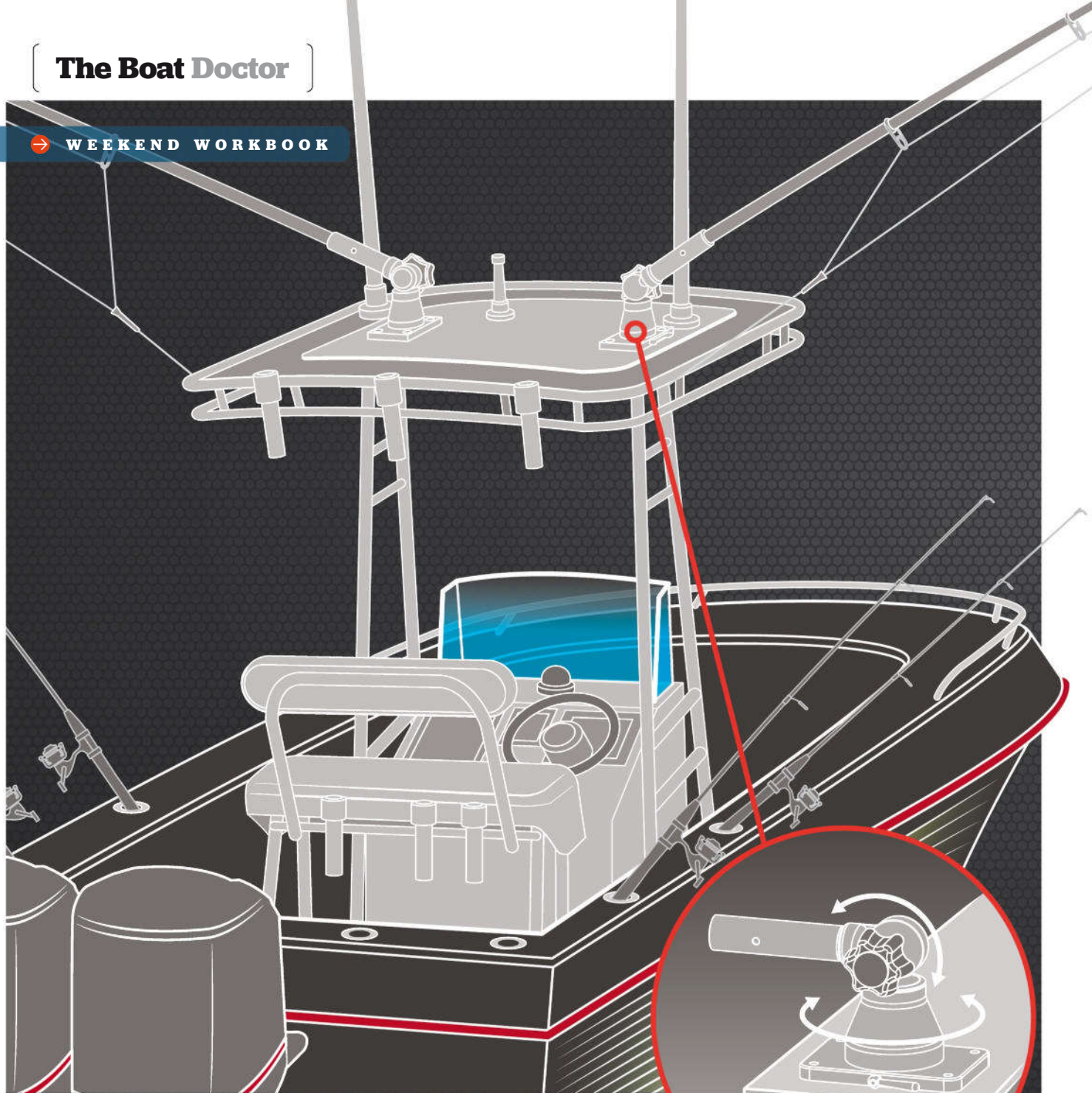
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JEANNEAU



Installing Outriggers

FISH MORE EFFECTIVELY WITH OUTRIGGERS

If you troll for game fish such as dolphin, marlin, tuna or wahoo, a pair of outriggers can help you present a more expansive selection of lures or baits. Essentially, an outrigger is a pole (aluminum is the most common) ranging from 15 to more than 40 feet in length that swings out to the side; each one lets you run one or more lines

from release clips, increasing the spread beyond the limited number of “flat lines” and minimizing tangles. Adjustable bases let you swivel the poles in and out, while ratchets let you change the vertical angle.

Outrigger kits are available from companies such as Pompanette, Rupp Marine, Taco Marine and Tigress. Here’s

how to install a pair using Taco’s popular Grand Slam T70 outrigger kit featuring 15-foot telescoping aluminum poles (that retract to 6 feet and are easy to remove for storage or trailering) on a 24-foot center-console fishing boat with a hardtop (minimum quarter-inch thickness is required on the hardtop).

— Jim Hendricks

GETTING STARTED

SKILL LEVEL

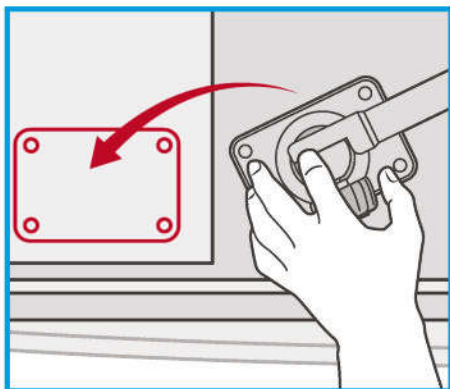


TIME TO COMPLETE

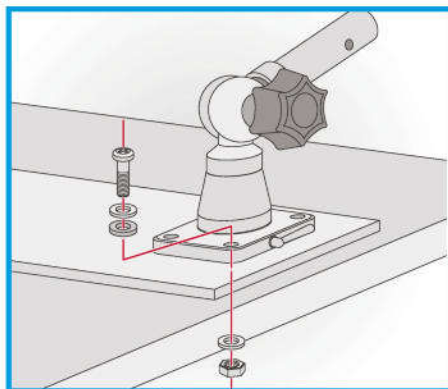
5 HOURS

TOOLS AND SUPPLIES

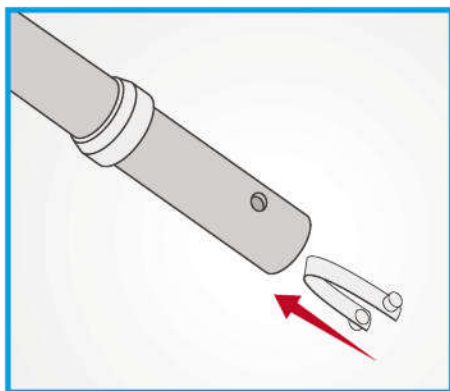
- ▶ **Taco Marine Grand Slam GS-170 outrigger kit with 15-foot poles** (\$1,005.95; starmarinedepot.com)
- ▶ **Taco Marine wedge plates for sloping hardtops** (\$92.33/pair; pbsboatstore.com)
- ▶ **Taco Marine backing plate for cored tops** (\$62.77; usaboatstore.com)
- ▶ **Taco Marine spacer tube kit for cored tops**
- ▶ **Electric drill and drill bit set**
- ▶ **1/2-inch box wrench**
- ▶ **3/16-inch Allen wrench**
- ▶ **Tape measure**
- ▶ **Combination square**
- ▶ **Silicone sealant**
- ▶ **Marking pencil**
- ▶ **Clean rags (for cleaning up sealant)**
- ▶ **Swaging tool for rigging the lines**



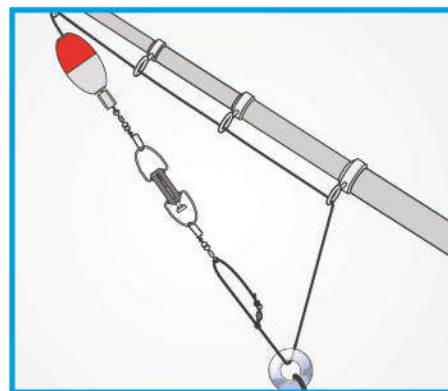
1 POSITION THE BASES Locate each aluminum outrigger base on the hardtop 2 or 3 feet in front of the forwardmost gunwale rod holder in the aft cockpit and 3 to 5 inches inside the edge of the hardtop. This usually places the base somewhere aft of the lateral midpoint of the top. Make sure the bases are positioned symmetrically — the same on each side. Check underneath the top for interference from elements such as structural supports, wires or dome lights. Once you're satisfied, mark the four mounting holes.



2 MOUNT THE BASES Orient each base with the knob and locking lever to the outside. On a solid top, drill each hole with a five-sixteenth-inch bit. Apply a bead of sealant, and bolt with the supplied hardware. A plastic washer between the top stainless-steel washer and the base prevents galvanic corrosion. On cored tops, drill each hole with a seven-sixteenth-inch bit; insert the optional spacer tubes, part No. V22-9806BKA4 (cut flush at the top and bottom). You will also need the optional backing plates before bedding and bolting on the bases.



3 INSTALL THE POLES This step is easiest to accomplish with telescoping poles fully retracted. First insert the supplied stainless-steel locking clip into the base of each pole, making sure the clip's button aligns with the hole in the butt end of the outrigger pole. Then, to secure the pole, insert the butt end of the pole into the tube on the outrigger base so that the button on the locking clip snaps into the hole in the tubes. Remove, when necessary, by pressing on the button and sliding the pole out of the base.



4 RIG THE LINES The kit comes complete with rigging items, including Dacron cords, snap swivels, crimps, release clips, and a bungee with a glass ring on one end and a stainless carabiner on the other. Take your boat to a place where you can extend the poles, and follow the instruction sheet for attaching the hardware. You may need to install a pad eye to secure the carabiner, but many times you can find a place such as a hardtop support arm to secure the bungee between the rigger base and the forward rod holder.

ILLUSTRATIONS: TIM BARKER; PHOTOS: COURTESY TACO MARINE

MANAGING LINES

Having Taco's telescoping Tele-Outrigger poles is great for trailering and storing, but how do you deal with all that extra cord when poles are retracted? The Grand Slam 170 kit includes an outrigger line caddy that lets you wrap up the slack line and secure it without need for rerigging everything. The cord quickly unfurls once you're ready to extend the poles.



On sloping hardtops, use Taco Marine's wedge plate. Featuring a 7 1/2-degree angle, this optional accessory helps level the outrigger bases to improve the aesthetics of the installation.



The Boat Doctor

QUICK STUDY



it may be the only way to get the job done on a shallow ramp.

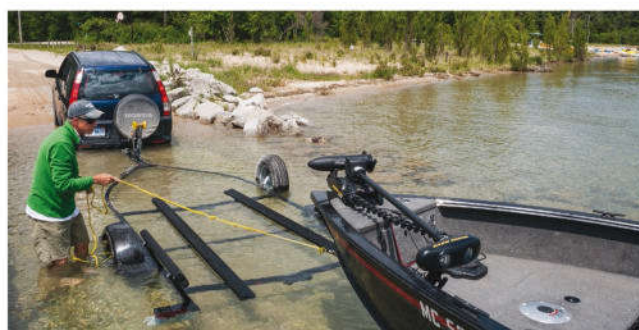
3 USE A FINGER DOCK It might pay to go out of your way a little and use a ramp with a finger dock, especially if single-handed. Back the boat down close to the finger dock. Secure long lines between the dock and boat so that, once it floats off the trailer, it won't float away. Then pull the trailer away. Your boat will be waiting for you at the dock.

Shallow Thinking

On launch ramps with steeper inclines – say around 20 degrees or more – getting the boat off the trailer is relatively easy. Yet not all ramps are user-friendly. What about ramps with more gradual slopes? There are a surprising number of such ramps on lakes and rivers in the Midwest. Getting the trailer in deep enough for the boat to float can also put your tow vehicle in dangerously deep water. The task turns even more difficult when launching single-handedly or on slippery pavement. Here are five ways to deal with launching on shallow ramps. – *Jim Hendricks*

1 GET A ROLLER TRAILER On very shallow and unimproved ramps, a roller trailer might prove the only way to launch. Unlike bunk trailers, roller trailers let you slide the boat off when there's not enough water to float it off. The boat also loads more easily, as it literally rolls up onto the trailer as you crank it forward with the trailer winch.

The same characteristics that ease launching also make it more likely that a boat will roll off the trailer at the wrong time. So it's doubly important to secure the boat until the trailer is well into the water. I've seen too many boats slide off a roller trailer and bounce on the pavement. To avoid this, don't rely solely on the



bow strap (which might snap under sudden pressure); secure a safety chain to the bow eye as well.

2 TAKE THE PLUNGE When loading the trailer on a shallow ramp, where dragging the drive

or prop on the apron is a concern, you might want to walk the boat onto the trailer and then attach the winch strap and winch it into place. Unfortunately, this means getting wet. While many trailer boaters take pride in never getting their feet wet,

4 FLOAT AND PULL FORWARD

I use this single-handed launch technique with bunk trailers on medium-shallow ramps without finger docks. Before backing into the water, I unfurl from the trailer winch about 10 to 15 feet of strap, but keep it hooked to the boat's bow eye, with the winch in forward gear. I back down far enough to float the boat off the trailer but then gently pull the trailer forward a bit. This allows me to tip-toe down the trailer tongue, clamber over the bow, start the engine and unhook the bow strap. A platform that attaches to the trailer tongue can make this maneuver a bit easier (see "Walk the Plank").

5 USE FOUR-WHEEL DRIVE

If your vehicle has four-wheel drive, engage it before launching or loading. Don't wait until the wheels start spinning. This is particularly important on an unimproved ramp where the rear wheels might sink into the mud or sand. Once that happens, four-wheel drive might not be able to help you. I know. I've been there.



Walk the Plank

A walkway that attaches to the trailer tongue helps you avoid the tightrope act when using the "float and pull forward" trick (No. 3). The 30-inch-long and 9½-inch-wide plank trailer walkway (\$39.99, basspro.com) easily bolts on and features nonskid pads for a secure footing. – *J.H.*



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WHAT TO LOOK FOR



Trailers

Shopping for a boat trailer can be daunting. You have to make myriad decisions. Take a look at this list, which provides a synopsis of the features you need to look for when buying a trailer for your boat or assessing the value of a trailer that comes with a new boat. — Kevin Falvey

Size

The gross vehicle weight rating (GVWR) is the maximum weight the trailer is rated to carry. Include boat and engine weight, as well as your normal complement of gear and fuel, when considering size. For safety, add 15 percent more weight.

Single Axle

Trailers with one axle can cost less and require less maintenance than dual-axle trailers. They are also

easier to move “manually” around driveways and into garages or other tight spots.

1 Multiple Axles

Trailers with two or more axles may cost more and require more maintenance. They are difficult to manually push and pivot into tight spaces. Multi-axle trailers will track better on the road and prove safer if a tire blows out.

2 Lights

LED lights are more

durable and waterproof than incandescent lighting and tax your tow vehicle's electrical system less (translation: you have brighter lights). Look for trailers with light brackets that protect the fixture versus those with exposed light fixtures.

3 Tires

Radial tires are better than bias-ply tires. Bias-ply tires transmit sidewall flex to the tread, increasing the chances for slipping.

Bias-ply tires also present a smaller footprint, resulting in less grip on the road.

4 Frame

Galvanized steel is strong and corrosion-resistant for coastal boats, yet heavy and more expensive than a painted trailer. Painted-steel trailers are fine for freshwater use. Aluminum trailers offer great corrosion resistance with somewhat lighter weight and a high degree of aesthetic appeal.

Brakes

Electric brakes offer low maintenance and the ability to brake the trailer prior to the tow vehicle, which is handy going downhill. However, we do not recommend them

for saltwater application. Surge brakes, though more complex, will prove more reliable in marine service.

Brakes II

While laws vary by state, we, along with many trailer manufacturers, recommend that multi-axle trailers have brakes installed on all axles.

Springs

Torsion axles can provide a smoother ride and require less maintenance, though they are not readily repairable. Leaf springs better absorb the load from uneven ground or shock from a pothole, especially on multi-axle trailers. Leaf springs are readily repairable but require more maintenance.



← Parkit360

It's hard to number the boaters who need to wrangle a trailer into the tight space between the fence and their house. The Parkit360 is an electric power dolly that allows easy movement of trailers. It comes complete with battery and charger. It's available in three models that can move up to 15,000 pounds gross weight. Starting at \$1,500; parkit360.ca — K.F.

5 Bunks

Bunk trailers can be less expensive, though they may also prove harder to launch from and load a boat onto at a ramp with a shallow angle or a low water level. The addition of glides can obviate this somewhat. Bunk maintenance is minimal. Some builders of boats with cored hulls require the use of bunk trailers for warranty.

6 Rollers

Roller trailers may be more expensive, though they will likely prove easier to launch from and load a boat onto at a ramp with a shallow angle or low water level. Rollers require more maintenance than bunks. Boats with stepped hulls and pontoon boats may

not be able to be launched with roller trailers.

Wiring

Look for tinned-copper wiring, especially if you will be in coastal waters. Heavy grommets and chafe protection should be used where wires enter and exit the trailer frame. Look for solid and accessible ground (white wire) points.

Bearing Lube

Traditional greased bearings are (relatively) easy to repair on the road. Oil bath bearings run cooler and with less friction, but they can develop condensation in the hubs if not used regularly and they're not as easily repairable. Most boaters are better off with grease-packed hubs.

Trailer Tips

⚙ GROSSED OUT

Don't confuse the gross axle weight rating (GAWR) with the gross vehicle weight rating (GVWR). The GAWR is for each axle. The GVWR is for the entire trailer.

⚙ RINSE PROTECTION

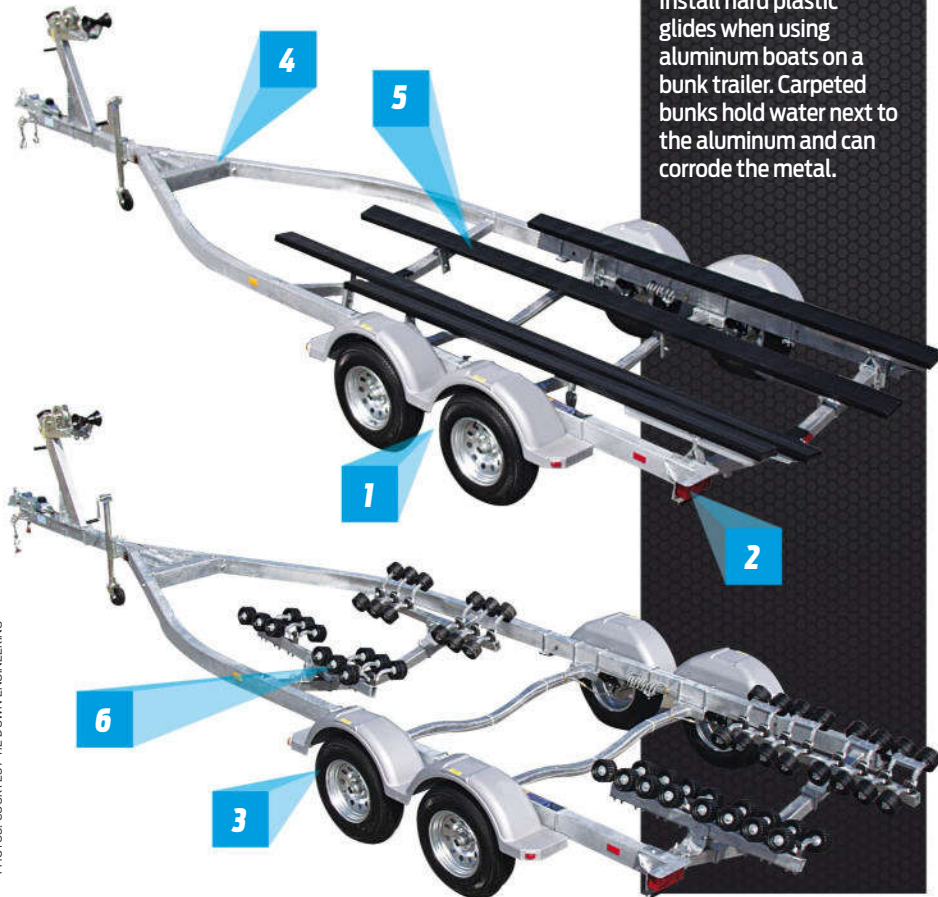
When using acid-base hull cleaners, be sure to cover the trailer fenders with a tarp, lest the dripping cleaner remove the zinc galvanized coating or paint.

⚙ NO ALTERNATIVE

Do not substitute auto tires for trailer tires: Trailer tires have thicker sidewalls.

⚙ A DRY BUNK

Install hard plastic glides when using aluminum boats on a bunk trailer. Carpeted bunks hold water next to the aluminum and can corrode the metal.



PHOTOS: COURTESY TIE DOWN ENGINEERING

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Carver C43 Coupe

IF I COULD SUM UP THE ESSENCE OF THE Carver C43 Coupe in two words, they would be *living space*. That's because, just as it did with the C40 and the C37 before it, Carver seeks to maximize usable space belowdecks, in the salon and also in the aft cockpit.

It starts with Carver's plumb bow design. Instead of the heavy taper at the bow seen on most modern planing boats, the plumb bow carries the hull sides almost vertically down to the water, maximizing the beam forward. This design element allows for the spacious master stateroom with a private en suite head. Though still nestled in the stem of the boat, the island berth sits lower than it would on a boat with a tapered bow, allowing for easier entrance and exit from the bed. There's also wider space to either side than you'd typically find. With 6 feet 8 inches of headroom belowdecks, the whole space feels like it has the nautical equivalent of cathedral ceilings.

Notably, the en suite head to port has a separate shower stall so that cruisers can bathe without dousing the entire bathroom. The sink features a trendy elevated basin. A skylight overhead keeps the space brightly lit, and of course there's the obligatory privacy shade.

■ NOTEWORTHY

Carver head-blasts the hull of the C43 below the waterline to make a better bonding surface for adding anti-fouling paint.

the dinette and the cockpit. The setup maximizes entertainment value. With the double-wide seat at the helm and another directly opposite the helm to port, the captain can be included in conversation as well. I like how the helm seat features a separate flip-up bolster for the captain so he or she can adjust the seat to sit or stand as desired. The helm features an inset dash for flush-mount electronics and an

There's a well-appointed guest head across the hall on the starboard side that is accessible from the hallway or the guest stateroom just aft of it. The guest stateroom features twin beds that can be converted to a full via a cushion insert.

Upstairs, the living space — from the helm to the salon and out to the cockpit — is all about flow. Everything is on the same level, allowing for continuous movement between the galley, the

From the socially flowing salon to the ergonomic helm to the spacious stateroom to the wide-open cockpit, the C43 Coupe is well-designed.



PHOTOS: COURTESY CARVER YACHTS





ergonomically placed steering wheel that tilts to the captain's preference. The joystick control sits to the left of the helm, the rocker switch controls to the right. Everything is within easy reach whether standing or sitting. With the skinny mullions in the windshield and windows around the entire salon, Carver does a great job in maximizing visibility from the helm, though a coupe never achieves the unfettered 360-degree visibility a bridge design affords, as found aboard the sister C40.

If it's light and openness you want, though, push a button and retract the sunroof, a feature that boaters in the Southern region will adore. The galley runs aft of the passenger seating to port, ideally suited to serve both the dinette to starboard and the cockpit out of the sliding glass doors. The fridge is located at the aft end of it for just that reason. I like how the aft bench of the dinette has an adjustable backrest so that, when the sliders are open, guests can face aft and socialize with folks in the cockpit or just enjoy watching the wake.

Other coupes, such as the Tiara 44 Coupe (\$903,704 with twin 435 hp Volvo Penta IPS600 diesels), employ a salon abovedecks that flows into the cockpit, but the Tiara's is a split-level. Others, like the Regal 42 Sport Coupe (\$751,665 with twin 300 hp Volvo Penta IPS400 diesels), feature a more traditional layout, with more open space abovedecks and with the galley and salon below.

From the C43's cockpit, it's easy to walk forward to the bow along the side walkways. The walkway itself is 13 inches wide, so you don't have to shimmy sideways, and there are strategically placed handholds along the way. Not to mention that the stainless-steel bow rail measures above my knees (I'm 5 feet 11 inches, average height), so it serves as a handhold and is tall enough not to trip over. The bow area is flat with a nonskid surface, so it's a safe spot for handling

lines or dealing with the anchor windlass tucked under a bow hatch. There's a remote-controlled spotlight mounted on the bow rail.

With the boat's wide beam and spacious interior, you'd expect it to look kind of like a floating tub. This is not the case. Carver worked hard to design the C43 with a sleek, sporty profile with an eye-catching broken sheer line. It has none of the excessive freeboard seen on the older generation of cruiser-oriented coupes. With the twin 480 hp Cummins diesels, we pushed this boat to a pleasant top speed of 36.5 mph. Ease off the throttles just a bit and the boat settles into a sweet spot at around 28 mph. While it's not a speed burner, the diesel power and 350-gallon fuel tank give the boat a peak 329-mile cruising range. And that's the point of this boat, not only to cruise but also to make the journey as entertaining as possible along the way. — *Pete McDonald*



To view more photos and additional information for the Carver C43 Coupe, go to boatingmag.com/2904. To view an accommodation plan for this boat, scan this tag!



AVAILABLE POWER:
DIESEL INBOARDS

High Points

- ▶ Huge stowage space in the salon sole will hold plenty of gear or provisions for an extended cruise.
- ▶ When open, the retractable sunroof creates an open-air feel inside the salon and at the helm.
- ▶ Tall bow rail offers a safe handhold all the way up to the flat bow deck with a nonskid surface, providing safe passage when handling dock lines or dealing with the anchor.

Low Points

- ▶ Salon door lacked an opening latch, which Carver said would be in place on production boats.
- ▶ Master-head floor lacks a drain outside of the one in the separate stand-up shower.

▶ **LOA:** 42'0" ▶ **Beam:** 13'10" ▶ **Draft:** 3'7" ▶ **Displacement (approx.):** 24,150 lb.
▶ **Deadrise:** 14 degrees ▶ **Bridge Clearance:** 10'10" ▶ **Max Cabin Headroom:** 6'8"
▶ **Fuel Capacity:** 350 gal. ▶ **Water Capacity:** 131 gal. ▶ **Max Horsepower:** 960
▶ **Available Power:** Twin Cummins diesels

Price: \$607,760

▼ BOATING Certified Test Results

SPEED			EFFICIENCY				OPERATION	
rpm	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	sound level
600	4.69	5.40	0.80	5.87	6.75	1848	2126	0 57
900	6.26	7.20	2.00	3.13	3.60	985	1134	1 60
1200	7.13	8.20	4.40	1.62	1.86	510	587	2 62
1500	7.91	9.10	8.60	0.92	1.06	290	333	4 64
1800	9.99	11.50	14.20	0.70	0.81	222	255	5 65
2100	16.08	18.50	19.00	0.85	0.97	267	307	5 67
2400	20.16	23.20	22.20	0.91	1.05	286	329	5 70
2700	24.68	28.40	28.00	0.88	1.01	278	320	4 73
3000	28.24	32.50	36.00	0.78	0.90	247	284	4 75
3400	31.72	36.50	48.00	0.66	0.76	208	240	3 77





MOST ECONOMICAL CRUISING SPEED

HOW WE TESTED

ENGINES: Twin 480 hp Cummins 6.7L diesels **DRIVE/PROPS:** V-drive/22" x 28" 4-blade niral propellers **GEAR RATIO:** 2.00:1 **FUEL LOAD:** 88 gal. **CREW WEIGHT:** 530 lb.

Carver Yachts Pulaski, Wisconsin; 920-822-3214; carveryachts.com

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Jeanneau Leader 36

THE WIND BLEW 20 KNOTS EVERY DAY DURING the annual Jeanneau sea trials in Cannes, France. The waters were just plain sloppy — perfect conditions for wringing out Jeanneau's new Leader 36.

The Leader 36 is the little sister of the builder's well-regarded Leader 40, introduced in 2014. The builder brought both versions of the 36 — an open and a sport-top — to the trials for comparison. They handled nearly identically and very well in those conditions, thanks to the brilliant Michael Peters-designed running surface.

Pushed at high speeds, the Leader 36 knifed through the rough stuff with aplomb. As every sport cruiser should, the boat answered the slightest correction, making it easy to change direction and avoid the deeper hollows between wave crests. With the exception of some inevitable windblown spray, the ride was dry and comfortable.

Turns were steady, with a modest amount of banking and no hint of digging in, and the chines aft made their presence known with good resistance to rolling. Tracking down-wave

was straight and true, and control precise, again making it easy to avoid big holes between waves.

The twin 300 hp Volvo Penta D4-300 Duoprop sterndrives topped out at 3,530 rpm and 38.6 mph while burning 30.7 gph. At cruising speeds between 25 and 34 mph, the Leader 36 showed excellent economy, particularly the 17 gph figure when turning 2,600 rpm at 25 mph. The Leader 36 got up on plane right around 2,200 rpm

NOTEWORTHY

The builder offers 10 sterndrive power options, half with MerCruiser gas engines and half with diesels by Volvo Penta.

and 17 mph, burning 13.5 gph.

For comparison, consider Monterey's 360SC (\$375,357), which is approximately the same length and beam but weighs in roughly 2,500 pounds heavier with a pair of 320 hp MerCruiser 377 MAG ECT/Bravo Three sterndrives.

The overall design is from Garroni Design of Genoa, Italy, with input from the Jeanneau design team. Our test boat had optional teak planking, part of a trim package called Premiere, on the fixed swim platform and in the cockpit to help improve footing when wet. Side decks are narrow but walkable, with good handholds for those going forward to

The Leader 36 delivers great handling and a smooth ride at speed in a seaway and evinces luxury forward (right), aft (center) and on the bow (far right).



PHOTOS: COURTESY JEANNEAU





enjoy some time on the foredeck sun pad (which has lifting backrests for support), as well as to take care of anchoring or line-handling duties.

The sun deck (you can call it that on the sport-top version as well, once the electric sunroof is opened) on the Leader 36 is well thought out for relaxing, starting with a massive sun pad aft. We particularly liked the backrest that can pivot to provide head support or become a seat back for the dinette just ahead on the port side. The molded locker to starboard has a flip-up cover and will accommodate an optional outdoor grill.

There's a dedicated sun lounge to port, and a small jump seat just inboard of it, which makes getting up or down to the lounge easier. When you take into account the fact that the helm bench is a single, you realize that there's no place for your mate to sit and face forward, except the jump seat, which is a bit narrow, or the dinette. And there's really no chance for a wider helm seat because it would partially block the entrance to the cabin.

We found the helm comfortable both standing and sitting, with a flip-up bolster, an adjustable wheel and controls thoughtfully positioned. We particularly liked the center-dash position for the multifunction device, in this case an optional e127 Raymarine with a 12-inch screen, making it easy to give a quick glance to check navigation information. Systems switches flank the screen and are easy to access yet hard to accidentally activate. Traditional-style gauges are set up high in a panel just below the compass. Slow-speed maneuvering options include bow thruster and MerCruiser Axius or Volvo Penta joystick.

Flip a switch and the sun pad rises, exposing the engine compartment. There was plenty of room to work around the engines, check the strainers and do the routine maintenance checks required before starting engines. Should an engine ever fail, it will require removal of only the sun pad to make extraction and replacement straightforward.

Descending the companionway stairs, we found ourselves in what appeared to be an open-plan main cabin with a compact galley to port, an enclosed head to starboard and a four-person dinette (with a nicely varnished table) forward, sitting at the foot of a squared-off double berth. In this case, appearances were slightly deceptive because there

was a hidden pocket door that slides out from the starboard bulkhead and completely closes off the forward cabin for privacy. The midcabin also has a closing door, in addition to two single athwartship berths that can be pushed together to form a double, and a single berth for a child running fore and aft along the hull side.

Headroom in the central portion of the main cabin is about 6 feet 6 inches, ideal for a tall boater. There are lots of opening hatches and ports for natural light and ventilation, and the decor is an eye-pleasing combination of white and warm wood. The single head compartment to starboard has a shower separated from the vessel-style designer sink and storage counter by an acrylic panel, with a drop-down cover for the manual toilet creating a shower seat.

Overall, the Leader 36 offers the complete package of comfortable amenities and excellent performance, which is why it will be a great success for Jeanneau, as well as its owners. — *John Wooldridge*



To see a photo gallery of the Jeanneau Leader 36, visit boatingmag.com/2905.



AVAILABLE POWER:
STERNDRIVES



High Points

- ▶ Roomy sun deck can seat six to eight passengers.
- ▶ Clever forward berth feature adds privacy.
- ▶ Michael Peters-designed hull rides comfortably, especially in the rough stuff.

Low Points

- ▶ There's no chance of a double bench seat at the helm.
- ▶ Dedicated sun lounge to port has a low forward-facing seat for your mate.
- ▶ Doors and lockers stayed closed at high speeds in big waves, but there were some nagging rattles, which was not at all unusual for a prototype.

▶ LOA: 37'7" ▶ Beam: 11'10" ▶ Draft (max): 2'5" ▶ Displacement (approx.): 14,586 lb.
▶ Transom Deadrise: 16.2 degrees ▶ Bridge Clearance: 13'7" ▶ Fuel Capacity: 146 gal.
▶ Max Horsepower: 760 ▶ Available Power: Twin 300 to 380 hp MerCruiser gas sterndrives; twin 260 to 370 hp Volvo Penta diesel sterndrives

Price: \$322,400 (base)

▼ BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION	
	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
600	4.69	5.40	0.80	5.87	6.75	1848	2126	0	57
900	6.26	7.20	2.00	3.13	3.60	985	1134	1	60
1200	7.13	8.20	4.40	1.62	1.86	510	587	2	62
1500	7.91	9.10	8.60	0.92	1.06	290	333	4	64
1800	9.99	11.50	14.20	0.70	0.81	222	255	5	65
2100	16.08	18.50	19.00	0.85	0.97	267	307	5	67
2400	20.16	23.20	22.20	0.91	1.05	286	329	5	70
2700	24.68	28.40	28.00	0.88	1.01	278	320	4	73
3000	28.24	32.50	36.00	0.78	0.90	247	284	4	75
3400	31.72	36.50	48.00	0.66	0.76	208	240	3	77

MOST ECONOMIC CRUISING SPEED

HOW WE TESTED

ENGINES: Twin 300 hp Volvo Penta D4-300 Duoprop diesel sterndrives DRIVE/PROP: Duoprop DPH sterndrives/GS niral propset GEAR RATIO: 1.76:1 FUEL LOAD: 146 gal. CREW WEIGHT: 400 lb.

Jeanneau America Annapolis, Maryland; 410-280-9400; jeanneau.com



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Belzona 277 Walk Around

WHEN BELZONA FIRST INTRODUCED its 325 Center Console, and later its 327 Walk Around, it received plenty of attention for its innovative features, most notably the inwale dive doors that work on a retractable slide system. While the new 277 Walk Around doesn't have the same setup, it does have a well-constructed dive door in the starboard gunwale of the cockpit and many of the other features that Belzona implemented in its bigger boats.

EXTRA POINT

The molded fiberglass helm tilts for easy access to the electrical system behind the dash.

It's got the forward-raked windshield that's integrated into the sturdy hardtop, which in turn is further supported by a fiberglass beam that nests in the leaning post. It's a stout construction technique that helps keep the boat rattle- and flex-free underway. In profile view, the bow area is distinguishable from the aft cockpit by a broken sheer line that rises moving forward, giving the 277 pretty lines while allowing Belzona to maximize the space. The walkway part of the walk-around bow is wide enough to pass through without shimmying sideways, and the bow rail is tall enough to provide an actual handhold in transit. A sun pad adorns the raised cabin ceiling forward of the console to create an excellent lounging spot.

Belowdecks, the cabin features a bright white interior that maximizes the natural light from the overhead hatch and side ports. There's a private head with a pump-out toilet connected to an 11-gallon holding tank. Cherry wood cabinetry and Corian countertops round out the details throughout the cabin.

For anglers, the cockpit features 34 square feet of cockpit space and two 254-quart insulated fish boxes. There's both a raw-water and freshwater washdown in the cockpit, spreader lights, tackle drawers in the leaning post, and rod holders in the gunwale topsides. Livewells and hardtop rod holders are on the options list. The wide walkway allows for 360-degree fishability, a trait normally reserved for center-consoles.

The 277 shares another trait with its big sisters in the fleet — a responsive hull with a good attitude in seas. Its V tapers to 21 degrees at the transom, with an aft pad to generate lift. With the twin 225 hp Mercury Verados on the transom, we pushed this boat to a top speed of 54 mph turning 5,800 rpm. The boat found its sweet spot with the engines turning at 3,500 rpm and pushing it to a cruising speed of 30 mph. That's more than fast enough and provides a range of 260 statute miles. At that speed it felt at home in a bay chop, navigating boat wakes and executing hard-over turns. It's a boat that handles well outside of the inlet, for fishing, diving or entertaining. — *Pete McDonald*

MORE ONLINE

To see more photos of the Belzona 277 Walk Around, visit boatingmag.com/2906.

AVAILABLE POWER: OUTBOARD



High Points

- ▶ Stout bronze and stainless-steel through-hulls and seacocks offer evidence of quality construction.
- ▶ Standard Fusion stereo system provides great onboard entertainment.
- ▶ Cushioned transom bench seats three people and keeps the crew comfortable underway.

Low Points

- ▶ There's a lack of grab rails or handholds behind the helm leaning post.
- ▶ Galley countertop in cabin is partially obstructed by interior wall.

Toughest Competitor

- ▶ The Boston Whaler 285 Conquest (\$201,723 with twin 225 hp Mercury Verados) is a more traditionally styled walkaround.

▶ **LOA:** 27'7" ▶ **Beam:** 9'4" ▶ **Draft (max):** 3'0" ▶ **Displacement (approx.):** 7,500 lb.
 ▶ **Transom Deadrise:** 21 degrees ▶ **Bridge Clearance:** 8'2" ▶ **Fuel Capacity:** 154 gal.
 ▶ **Water Capacity:** 15 gal. ▶ **Max Horsepower:** 450 ▶ **Available Power:** Twin Mercury, Yamaha, Honda or Suzuki gasoline outboards

Price: \$213,435 (with test power)

BOATING Certified Test Results

SPEED			EFFICIENCY					OPERATION	
rpm	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
1000	5.56	6.40	1.00	5.56	6.40	771	887	1	68
1500	6.69	7.70	3.00	2.23	2.57	309	356	2	71
2000	7.91	9.10	7.80	1.01	1.17	141	162	4	73
2500	8.17	9.40	9.70	0.84	0.97	117	134	5	74
3000	11.38	13.10	12.00	0.95	1.09	131	151	3	82
3500	26.07	30.00	16.00	1.63	1.88	226	260	2	83
4000	30.94	35.60	19.80	1.56	1.80	217	249	2	85
4500	35.71	41.10	28.80	1.24	1.43	172	198	2	84
5000	39.63	45.60	38.90	1.02	1.17	141	162	2	85
5500	42.84	49.30	48.00	0.89	1.03	124	142	1	86
5800	46.92	54.00	55.00	0.85	0.98	118	136	1	88

MOST ECONOMICAL CRUISING SPEED

HOW WE TESTED

ENGINE: Twin 225 hp Mercury Verado four-stroke outboards **PROPS:** 15½" x 19" 3-blade stainless steel **GEAR RATIO:** 1.85:1 **FUEL LOAD:** 116 gal. **CREW WEIGHT:** 520 lb.

Belzona Marine Miami Lakes, Florida; 305-512-3200; belzonamarine.com



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Crevalle 25 Bay

BAY BOATS HAVE PROLIFERATED IN RECENT years. Most, however, have retained the angling equivalent of a game face; they're serious fishing machines. So is the Crevalle 25 Bay. Yet designer and company partner Nick Engels also gave this bay boat a softer side, revealed in touches such as a 40-inch-wide bench seat with an angled backrest that hides under the 80-inch-wide aft casting deck.

Most bay boats offer an expansive forward casting platform, and the Crevalle 25 Bay is no exception. Measuring 73 inches at the widest and 50 inches along

EXTRA POINT

Optional extended swim platforms — one on either side of the transom — with a boarding ladder on the port platform are great for play days on the water.

the centerline with toe rails for safety, the 16-inch-tall bow deck gives you plenty of room to fish. But that's not all. With the forward seating package, cushions and a pair of backrests convert the bow to an inviting sun lounger. The backrests can be reversed to create a pair of aft-facing seats. A step-down head

within the center-console — a feature you won't find on many bay boats — lets the family feel comfortable about spending a day on the water. The midcockpit gunwales are also relatively tall for a bay boat — 21 inches. We'd like to see coaming bolsters for comfort. There's a pair of 28-gallon release wells, plus a 12-gallon baitwell forward of the console. You can use this well as a cooler for drinks or frozen bait. A portable 72-quart cooler resides under the aft deck; another is nestled under the leaning post. An insole locker contains a special frame for stowing the ubiquitous 5-gallon bucket. The helm area

features a storm-gray finish to reduce glare, and a fiddled top keeps items from sliding off. The 32-inch-wide helm panel will accommodate a 12-inch multifunction display.

Lockable rod stowage for up to 10 sticks means you won't be undergunned when fishing. There are also four vertical rod holders abaft the helm seat, and under-gunwale racks for more rods on each side. Order the optional hardtop and you'll get four more vertical rod holders.

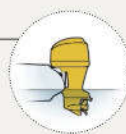
Everyone will love the seven-seconds-to-30 mph acceleration, as well as the 54.1 mph top speed when powered by a Yamaha F300 outboard, which was mounted on a SeaStar electrohydraulic jack plate with a 6-inch setback. We ran it at the 3-inch elevation mark.

Crevalle has succeeded in creating a top-quality bay boat that you can fish hard on Saturday and then, with a bit of reconfiguring, take the family out for a leisurely cruise in on Sunday. — *Jim Hendricks*

MORE ONLINE

For a photo gallery of the Crevalle 25 Bay, visit boatingmag.com/2907.

AVAILABLE POWER: OUTBOARD



High Points

- ▶ Expansive forward casting deck converts to an inviting bow lounger.
- ▶ Modified-V hull design means you can also venture offshore.
- ▶ Relatively tall gunwales offer an extra measure of safety.

Low Points

- ▶ Padded coaming bolsters would cushion your knees and thighs.
- ▶ Forward deck is flush, so keep it clear of passengers while underway.
- ▶ Lifting the aft deck to access aft cooler is a minor inconvenience.

Toughest Competitor

- ▶ Contender's 25 Bay (\$95,966 base price with single Yamaha F300) leans more to the hard-core angling side but features family-oriented wraparound seating abaft the bow deck.

▶ **LOA:** 25'6" ▶ **Beam:** 8'6" ▶ **Draft:** 1'0" ▶ **Displacement (approx.):** 3,600 lb. (without power) ▶ **Transom Deadrise:** 16 degrees ▶ **Bridge Clearance:** 7/8" (with hardtop) ▶ **Fuel Capacity:** 83 gal. ▶ **Max Horsepower:** 300 ▶ **Available Power:** Single Evinrude, Mercury or Yamaha outboard to 300 hp

Price: \$85,000 (with single Yamaha F300)

BOATING Certified Test Results

SPEED				EFFICIENCY				OPERATION	
rpm	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
1000	4.69	5.40	1.30	3.61	4.15	270	310	0	67
1500	6.08	7.00	2.20	2.76	3.18	207	238	1	70
2000	7.91	9.10	3.90	2.03	2.33	151	174	4	76
2500	11.04	12.70	5.60	1.97	2.27	147	169	6	82
3000	19.90	22.90	6.40	3.11	3.58	232	267	3	83
3500	26.50	30.50	8.60	3.08	3.55	230	265	2	86
4000	30.94	35.60	11.40	2.71	3.12	203	233	2	89
4500	35.28	40.60	15.10	2.34	2.69	175	201	2	90
5000	38.93	44.80	17.50	2.22	2.56	166	191	2	93
5500	43.45	50.00	21.70	2.00	2.30	150	172	2	94
6000	47.01	54.10	26.10	1.80	2.07	135	155	2	96

MOST ECONOMICAL CRUISING SPEED

HOW WE TESTED

ENGINE: Single 300 hp Yamaha F300 **DRIVE/PROP:** Outboard/15½" x17" Yamaha Saltwater Series II 3-blade stainless steel **GEAR RATIO:** 1.75:1 **FUEL LOAD:** 30 gal. **CREW WEIGHT:** 420 lb.

Crevalle Boats Wildwood, Florida; 352-400-4222; crevalleboats.com



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Davis 28 Center Console

WE SAY The Buddy Davis brand conjures up images of big Carolina-style battlewagons. The Davis 28 Center Console isn't as large, but the broken shear and wide flare hint of the distinguished family connection.

The hull sides maintain full freeboard all the way aft while the running surface

steps up about 2 feet forward of the transom, giving the boat the look of a finned automobile. With 24½ degrees of deadrise aft and a very sharp entry, the 28 can smooth out sizable seas. Divinycell foam coring combined with vacuum-infused, vinylester-resin fiberglass composite construction offers super strength.

Anglers will appreciate the vast aft cockpit, as well as a 40-gallon livewell abaft the helm seat and 50-gallon fish locker under the raised foredeck. The 36-inch-wide console panel offers room for flush-mounting a pair of 15-inch multifunction displays. A wraparound, clear-polycarbonate windshield extends from the console top to the underside of the hardtop. A leaning-post-style helm seat accommodates two adults and includes a backrest for extra comfort.

This mini battlewagon has comforts too: a step-down head inside the center-console and padded wraparound seating in the bow for an occasional cruise with family and friends. — *Jim Hendricks*

WHO'D WANT ONE Serious offshore anglers and wreck fishermen.

ANOTHER CHOICE The Regulator 28 (\$188,895 with twin Yamaha F300s) has a wide flare, but an unbroken shear.

BOTTOM LINE \$187,000 (as tested); davisyachts.com

▼ BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION		
	knots	mph	naut. gph	stat. mpg	n.mi. range	s.mi. range	angle	sound level		
1000	6.26	7.20	2.50	2.50	2.88	450	518	0	68	
1500	8.34	9.60	4.50	1.85	2.13	334	384	2	69	
2000	9.56	11.00	6.50	1.47	1.69	265	305	2	75	
2500	14.43	16.60	9.00	1.60	1.84	289	332	2	81	
3000	24.16	27.80	12.80	1.89	2.17	340	391	5	82	
3500	30.59	35.20	15.40	1.99	2.29	358	411	2	84	
4000	32.15	37.00	19.90	1.62	1.86	291	335	2	84	
4500	37.89	43.60	26.90	1.41	1.62	254	292	2	86	
5000	40.84	47.00	31.80	1.28	1.48	231	266	2	91	
5500	43.62	50.20	32.90	1.33	1.53	239	275	2	92	
6000	48.66	56.00	47.90	1.02	1.17	183	210	2	95	

MOST ECONOMICAL CRUISING SPEED

► LOA: 28'0" ► Beam: 9'6" ► Draft: 1'8" (outboards up)
► Displacement (approx.): 7,500 lb. (dry with engines)

HOW WE TESTED

ENGINE: Twin 250 hp Yamaha F250 outboards **PROP:** Yamaha Saltwater Series II 15¼" x 19" 3-blade stainless steel **GEAR** **RATIO:** 1.75:1 **FUEL LOAD:** 75 gal. **CREW WEIGHT:** 440 lb.

PHOTO: COURTESY DAVIS YACHTS

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WEAR IT!



Regal 2000 ESX

WE SAY When you see the Regal 2000 ESX fly by with its cool graphics and profile enhanced by the Power Tower, you'll be impressed. In this newly designed 20-footer, many other attributes back up that first impression.

Start with what you can see. Regal designed this boat to maximize seating space while making it convertible as well. In the cockpit, the corner seats along

the transom bench have built-in notches to create more legroom. The backrests are also angled to increase comfort. The seating in front of the port console has an adjustable backrest to face forward or aft. It also slides on a track system to create a deeper seat whichever way you face. The bucket seat at the helm also rotates fully around so the driver can join the conversation at anchor.

The stylish windshield offers evidence of Regal's build prowess. It's supported underneath by a glassed-in horse collar that gives it rigidity and durability over time. The whole boat never shakes or rattles, thanks to a solid-stringer grid and deck that are fused to the hull with Plexus adhesive.

Regal is known for having efficient hulls, thanks to a stepped-hull design it calls FasTrac. The midship step flows air underneath the hull to help break surface tension and friction underway. It's a smooth-handling ride that zips to a top speed approaching 48 mph.

— Pete McDonald

WHO'D WANT ONE Boaters looking for a sporty yet trailerable bowrider.

ANOTHER CHOICE The Sea Ray 205 Sport (\$45,057 with a 220 hp MerCruiser 4.3L Alpha One sterndrive) has a tow arch option.

BOTTOM LINE \$33,460 (with test power); regalboats.com

▼ BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION		
	knots	mph		naut. gph	stat. mpg	n.mi. mpg	s. mi. range	angle	sound level	
1000	4.34	5.00		1.10	3.95	4.55	142	164	1	64
1500	6.00	6.90		2.00	3.00	3.45	108	124	2	67
2000	6.95	8.00		4.00	1.74	2.00	63	72	5	70
2500	12.34	14.20		5.90	2.09	2.41	75	87	5	72
3000	21.64	24.90		8.00	2.70	3.11	97	112	3	73
3500	26.24	30.20		9.50	2.76	3.18	99	114	2	75
4000	31.37	36.10		12.90	2.43	2.80	88	101	2	78
4500	36.58	42.10		15.50	2.36	2.72	85	98	2	82
5100	41.10	47.30		17.80	2.31	2.66	83	96	2	85

MOST ECONOMICAL CRUISING SPEED

► LOA: 20'3" ► Beam: 8'6" ► Draft: 3'0" ► Displacement (approx.): 3,400 lb.

HOW WE TESTED

ENGINE: 225 hp Volvo Penta 4.3L V-6 gasoline DRIVE/PROP: SX/14" x 19" 3-blade aluminum GEAR RATIO: 1.60:1 FUEL LOAD: 20 gal. CREW WEIGHT: 380 lb.

PHOTO: COURTESY REGAL BOATS

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Power Points

SEVEN FACTORS TO CONSIDER WHEN REPOWERING

INSTALLING NEW ENGINES IS A GREAT WAY OF REJUVENATING OLDER BOATS. AT THE SAME TIME, YOU can replace or upgrade related systems. Thanks to technological advancements in marine propulsion, your choices are greater than ever, giving you a lot more to think about than just swapping out engines. Let's look at seven points to consider in your next repower project.

POWER UP Find out the maximum horsepower rating and go for it. That's where your boat will perform at its best and get the best fuel economy, because the engines aren't struggling. No one complains about too much horsepower, but you may rue the day you decided to cut back. For stern drives, you might also need to upgrade the drive with a beefier unit that will accommodate additional torque.

AIR IT OUT If you're ramping up inboard-engine horsepower or switching from gasoline to diesel, the power plant might need more air than the current ventilation system can provide. Diesels in particular need a lot of air. Check with your engine dealer or manufacturer to find out if you need to upgrade and enlarge the ventilation system.

GET CONTROL Electronic controls and digital gauges are standard on many new boats, and with good reason. Fly-by-wire throttle and shift make handling easier. Digital

gauges provide far more information — including fuel consumption and best mpg — than old-school analog gauges could ever provide. So upgrade to these elements if they are offered with the new propulsion system.

STEER IT RIGHT A repower project is a great time to evaluate the steering system, be it hydraulic or mechanical. Check and, if deemed necessary, replace aging components such as cables, actuators, hoses or hydraulic helms. Also

consider power steering. Many new engines are available with integral power steering, but there are also add-ons such as SeaStar Solutions' Optimus EPS system.

JUICE IT Marine engines with integrated power-steering systems and high-pressure fuel-delivery systems may require more electricity than an old battery system can deliver. So check the engine specifications or ask your dealer. At the very least, replace the old battery cables with fresh ones, because the old cables

might be corroded inside. This unseen evil can result in too much resistance, lowering the voltage delivery and increasing amp draw to excessive levels. At the same time, think about adding a high-output alternator and an automatic charging relay to charge the house batteries with surplus voltage.

FUEL DELIVERY Replace all of the boat's fuel hoses with fresh U.S. Coast Guard-approved hose, making sure gasoline lines are ethanol resistant. Install fuel hoses and fittings with inside diameters (e.g., $\frac{3}{8}$ inch) sufficient to sustain the engine's fuel flow rate at wide-open throttle. Starving the engine of fuel not only hampers performance but can also lean out the fuel-to-air ratio and lead to engine damage. For a listing of Coast Guard fuel-hose specifications, visit boatingmag.com/proper-boat-hose-sizing. Also, it is critical to equip the fuel system with the type, size and number of filters as specified by the marine engine manufacturer.

COLOR MATCH In the old days, you could get only one color from most outboard brands. Today, however, outboard brands offer a choice of colors to complement your boat color. Suzuki offers three hues — charcoal, white and matte black. Mercury also offers three colors — two shades of white and traditional black. Evinrude takes this a step further with optional color panels in five colors and 14 different accent colors for its E-TEC G2 outboard series. — *Jim Hendricks*

Longer SHO

Yamaha now offers its high-performance V Max SHO 175 and 250 outboards with XL (25-inch) shaft lengths in addition to 20-inch shafts. The new models are perfect for walleye and multispecies boats with deeper transoms than bass boats offer. yamaha-motor.com — *J.H.*



PHOTOS: (FROM TOP) COURTESY EVINRUDE, COURTESY YAMAHA

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KNOW OR BE TOWED

We ride along with Sea Tow to help boaters learn how to stay up and running.

STORY AND PHOTOS BY CAPT. VINCENT DANIELLO

We were about halfway home from the Bahamas. Both engines were running off the center fuel tank — the one, it turned out, with a flaky gauge. The outboard motors quit simultaneously, and the priming bulbs, located near the engines, wouldn't draw fuel up half-full saddle tank pickups, through long hose runs and higher still to primary fuel filters. There we sat, effectively out of gas with 75 gallons still aboard.





“DON’T *THINK* YOU HAVE ENOUGH FUEL. EITHER KNOW YOU HAVE ENOUGH OR GO GET MORE.”

So we did what thousands of boaters do every season; we called Sea Tow. Will Beck, the owner of Sea Tow Palm Beach, headed out to help. “On some boats I can get engines to prime by pumping the bulb while turning the key and cranking the motor,” Beck said. That didn’t work for us, so Beck dragged us for five hours back home. With clarity from hindsight, the owner has since rigged his boat with priming bulbs before the Racors. (“The lower they are and the closer to the tank pickup the better,” Beck said.) It’s also easier to prime engines from full tanks than tanks that are near empty.

Sea Tow and TowBoatU.S. skippers provide that kind of hindsight nearly every day, so we decided to ride along

with Sea Tow Boston for two days to see what wisdom its skippers, and their stranded customers, could pass along to help other boaters avoid a slow tow home — or worse, a mayday call.

THE HOME STRETCH

My first day with Sea Tow started slowly — as most do, until the afternoon, when everyone starts heading home. In the lull I asked Capt. Michael Yorke about his thoughts for avoiding a tow. “Don’t *think* you have enough fuel,” he said. “Either *know* you have enough or go get more.” Yorke proved to have foresight as well as hindsight. Within minutes of that utterance he got a call about a boat that

AUTHOR’S LOG AUG. 16, 2014

Aboard Sea Tow Boston *Responder*
with Capt. Michael Yorke

1133 Arrived alongside Sea Tow Boston *Rescue 2* towing a 17-foot Boston Whaler that broke down 22 miles offshore. (Capt. Dave Winkler departed at 0815 in 4-foot seas to fetch it.)

1158 Underway again from Winthrop Public Landing, “on patrol” in Boston Harbor and then on standby on a mooring at Spectacle Island. **Cost for service, \$0; retail cost if not a Sea Tow member, \$1,350**

1500 Capt. Yorke’s first call of the day: Departed Spectacle Island toward Back River for a 25-foot Pro-Line that ran out of fuel.

1517 Arrived alongside the anchored boat and towed it about 150 yards to a nearby fuel dock.

PHOTO: COURTESY WEST MARINE (GAS CAN)



PHOTO: COURTESY WEST MARINE (DOCK LINE)

had run out of gas. The 25-foot Pro-Line sat anchored about 150 yards from the fuel dock he was headed for before the engine quit, even though his fuel gauge still showed half a tank. “Know your boat,” Yorke advised. That includes how many gallons each tank holds in order to verify gauge accuracy every time you fill up. “Note your engine hours when you top off, and know about how much fuel you burn an hour at cruise,” Yorke said. That gives a rough accounting of fuel on board that includes a reserve from hours spent idling, not cruising. We towed the Pro-Line to the fuel dock and helped get its engines running. More often, Sea Tow supplies fuel to boaters offshore, and they reimburse \$25 for each 5-gallon jug.

Sea Tow Boston’s busiest days come when low tides — 12 feet from highest to lowest — overlap with the afternoon rush to get home. “The marks on the chart and buoys in the harbor are aids, not a road map,” warned Steve Winkler, co-owner of Sea Tow Boston. “If you’re not absolutely sure about where you are or where you’re going, stop and figure it out.” Not just low tides but also spring high tides call for diligence, because they sweep prop-wrecking shoreline debris into Boston Harbor’s strong tidal currents.

NONSTARTERS

The next call: a 32 Wellcraft drifting near Boston’s North Channel sea buoy. “One engine overheated, and not long after, the other one did,” said Sea Tow member Alan Berkowitz. He was out with friends who had recently bought the boat, and they were still learning the ropes. “The boat had a lot of growth on the bottom, and the sterndrives’ water intakes were clogged. We couldn’t keep either engine running,” Berkowitz said, and worse, “the owner is diabetic. We were just planning a short cruise and didn’t have any food aboard.” Yorke said that’s not uncommon. “You never know when you’re going to break down, and it might be a long tow home. Always pack warm clothes and extra food and drinks,” he advised.

Sea Tow services cover any boat that a member is “in charge of,” but sometimes a member, like Berkowitz, is aboard a buddy’s broken boat and discernibly not the skipper. “I’ll give the benefit of the doubt if I can,” Winkler said. “The bedrock of my business is renewals, and a happy member is a fantastic



1543 Underway again from Hewitt’s Cove Marina.
Cost for service, \$0; cost if not a Sea Tow member, \$375

1548 Responded to a 32-foot Wellcraft with overheated engines at North Channel sea buoy.

1620 Came alongside and then took the boat in tow back to Point of Pines Yacht Club marina.

1744 Underway from Point of Pines Yacht Club.
Cost for service, \$0; cost if not a Sea Tow member, \$825

1829 Met up with Capt. Mike Murphy aboard Sea Tow Boston *Rescue 2* to swap his empty fuel jugs for our full jugs.

1920 Back at Sea Tow Boston docks. My day was over but Capt. Murphy’s continued, quietly that night, until 2300, and then he had to drive two hours home to Maine. — V.F.D.

salesman, but if he needs a six-hour tow, that's entirely different." That leniency worked in Berkowitz's favor. Membership definitely has its privileges.

ADRIFT AT SEA

I headed out again the following Sunday with franchise co-owner Capt. Dave Winkler, Steve's brother. On our first call, we towed a 24-foot Sea Ray that had broken down adjacent to Boston Harbor's main ship channel. It turned out to be a blown engine still under warranty. "I don't know much about engines. It's nice to just call and let them safely get you back to your marina," said John

MacKenzie, the vessel's owner. A few weeks later, Sea Tow towed MacKenzie from his slip to a boat ramp to haul the boat for service — again free of charge.

After lunch we went back out to fetch a 32 Luhrs adrift near Boston Logan airport. The owner had just purchased the used boat. It ran fine on sea trial and the first few trips, but when boat wakes in the busy channel stirred up debris in the 30-year-old boat's fuel tanks, the fuel filters clogged. "Both motors shut down within a few minutes of each other," said Bill Paraneila, the boat's owner. "We were in the middle of the channel with sightseeing boats, commuter ferries and private boats racing by. We were rocking all over the place," he said. The lesson: Always check your fuel filters before you leave the dock, and be prepared to deal with clogs offshore.

Worse, Paraneila's boat started drifting toward the runway at Logan airport. "He was inside the security zone of the airport, blowing right toward the riprap," Yorke said. Which brings us to his next piece of advice: "Have an anchor ready

to go. Things happen quickly out there." A VHF radio and GPS are also vital equipment. "You need to be able to keep yourself in one spot, call us for help, and tell us where to find you."

Towing Paraneila's boat home exposed another problem, again from boats passing close and throwing large wakes. "When we hit one particularly big wave, the bow went up, the boat bucked back, and that windlass [where the towing hawser was attached] pulled out of the deck and sailed like it was catapulted," Paraneila said. The windlass bolts were backed only with small washers that pulled right through the plywood deck core, which

MAKE SURE YOUR HARDWARE IS MOUNTED WITH THE PROPER GEAR TO HANDLE THE LOAD.



had turned soft. Make sure your hardware is mounted with the proper gear to handle the load.

Wakes are a bigger problem for Yorke when he's towing "on the hip," or worse, when he's leaning beneath the bow of a boat trying to hook his hawser onto the trailer eye. "Give us a slow bell [slow speed]," he asks of passing boaters. "It might be you that's broken down tomorrow, and you'd appreciate the courtesy."

On my last call with Sea Tow Boston, I accompanied



PHOTO: COURTESY WEST MARINE (LEWMAR WINDLASS)

AUTHOR'S LOG AUG. 30, 2014

Aboard Sea Tow Boston *Rescue 1* with Capt. Dave Winkler

1255 Departed Sea Tow docks for a 24-foot Sea Ray broken down and anchored adjacent to Boston Harbor's main ship channel buoy No. 2.

1309 Came alongside; the owner retrieved his anchor.

1317 In tow toward India Wharf marina.

1357 Secure at India Wharf.

1401 Underway again, back toward Sea Tow Boston docks.

Cost for service, \$0; cost if not a Sea Tow member, \$450

1430 Underway aboard Sea Tow *Responder* with Capt. Yorke to a 32-foot Luhrs adrift near Boston Logan airport.

1438 — Alongside the Luhrs, which is drifting toward the rocks surrounding the runway.

1439 In tow.

1517 During many large boat wakes, the windlass we were towing from broke away from deck.

1528 In tow again.

1628 Secured to a mooring at Fore River.

1630 Underway toward fuel dock.

Cost for service, \$600 (the first \$400 of the tow was paid by the boat's insurance)

1808 I jumped aboard Sea Tow *Rescue 2* with Capt. Ken Webber to return a brand-new 190 Bayliner back to its dock at Constitution Marina. The engine wouldn't turn over, even with an attempted jump-start.

1849 The boat was taken in tow by a small tow boat operated by Constitution Marina. The dock is too narrow for a Sea Tow vessel to side-tow, so this is a common occurrence for tows to this marina.

Cost for service, \$0; cost if not a Sea Tow member, \$450

1910 Arrived at Sea Tow Boston docks. My day was done, but at least one captain stayed past 2200, and someone is on call 24/7/365. — V.F.D.



Capt. Ken Webber to return a brand-new 190 Bayliner to its dock at Constitution Marina. The engine wouldn't turn over at all, even with an attempted jump-start. "We're not mechanics," Yorke said of the incident. "We'll

check for loose or dirty battery connections or try to prime an engine that ran out of gas, but we don't take the cowling off. We'll do what we can to get them going as an alternative to towing, but the main thing is to get the boat into a safe situation."

Other common offshore fixes include jiggling the shift lever to engage a finicky neutral start switch, checking that kill lanyards are fully in place, and ensuring weak batteries are paralleled for the best chance at starting an engine. When older carbureted inboards are warm and won't start, Winkler suggests advancing the throttle to full while still in neutral and cranking the engine, which opens up plates to let more air into the carburetor. Outboards with high engine hours and worn cylinders sometimes

benefit from advancing the throttle while cranking the key as well.

Spending so much time with Sea Tow Boston helped me reflect on my own Sea Tow experience, adrift and helpless so far from home. It made me think of both what I could have done to prevent needing the tow and, once I needed help, how lucky I was to get it. That long tow home from the Bahamas made the value of that Sea Tow membership readily apparent — the tow would have cost \$1,925 without it. In the end, having an assistance-towing plan and never actually needing it is a much better deal. 📌



WHEN TOW BOATS WERE RED, WHITE AND BLUE


With U.S. Coast Guard budgets soaring, the United States Congress and the administration of Ronald Reagan cut free tows from the Coast Guard in non-life-threatening situations in 1983. Joe Frohnhoefer founded Sea Tow as the first assistance-towing company that same year. By 1987 the Coast Guard officially ended nonemergency responses. Sea Tow handled most BoatU.S. towing until 1992, when BoatU.S. started offering TowBoatU.S. service to its members. — V.F.D.



LA NUEVA PESCADORA

LEARNING TO FISH IN THE BLUE WATERS OFF BAJA
STORY BY HEATHER STEINBERGER PHOTOS BY RICHARD STEINBERGER

ILLUSTRATIONS: RYAN SWANSON (FISH), SPANISH ART DESIGNED BY FREEP.K.COM

A photograph showing the side of a boat's cabin and a metal railing. The boat is moving across a body of water, with a wake visible. In the background, a city skyline is visible across the water under a bright, hazy sky. The text is overlaid on the upper left portion of the image.

A PALE LIGHT GLOWED IN THE EAST,
and the stars overhead had started to fade.
Daybreak wasn't far away. Still, I couldn't
help casting one final glance at the hotel. If I
hustled, I could be back in my warm bed in less
than 10 minutes. Instead, I was going fishing.
And fishermen like to get up early.
REALLY EARLY.

AT 5 A.M.



Want to go offshore fishing? Expect to start the day before sunrise and plan accordingly. Really, there are not many things in the world that are this much fun that involve being awake before sunrise.

the dark marina already bustled with activity as 13 boats prepared to cast off the lines. The Hotel Coral & Marina's friends-and-family fishing tournament was intended to be a low-key affair, but these were serious anglers, and lively competition was in the air.

Aboard the 43-foot Mikelson *Tin Man*, Capt. Lee Madding and his two-man crew had the coffee pot on and an open box of fresh doughnuts in the galley. Lee got down to business right away. He gave us our safety briefing and gave a quick tour of the boat. He also gave us a warning.

"It's blowing 15 to 16 knots already," he advised. "It's been piping up to 20 to 25 knots in the afternoons, and it could be more, so I want you to be prepared for a rough day."

I was grateful for this solid battlewagon, because I knew it was designed to handle

seas, yet I felt a small surge of apprehensiveness. I've spent my life on and around boats, but I am not an angler. I joined this April outing so I could provide firsthand insight into what it's like to try sport fishing for the first time. Now, faced with 10-plus hours on a cranky Pacific Ocean, I wondered just what I had gotten myself into.

WARMING UP

Often called the Cinderella of the Pacific, the Baja California city of Ensenada lies on the Bahía de Todos Santos just 78 miles south of San Diego. This community of 280,000 people

is the first major port south of the U.S. border with Mexico; it's known for world-class sport fishing. In fact, in the mid-20th century, Ensenada was christened the Yellowtail Capital of the World.

Besides California yellowtail, there are opportunities for bluefin, yellowfin and bigeye tuna offshore, as well as striped marlin and mahimahi. Closer in there are calico bass, California halibut, lingcod, Pacific barracuda, rockfish and white sea bass. And lately it's been better than good.

"The last year of fishing has been amazing," Lee said as the eastern sky flared apricot and gold. "This month, people have been catching tuna. We've had such an influx of warm water near shore, maybe 64 degrees."

As Lee carefully guided *Tin Man* northward through the rolling swells, away from what he called the dark and dirty water near shore, crew members Tank and Alejandro prepared the gear. I glanced at the dashboard gauges, noting

"THIS MONTH, PEOPLE HAVE BEEN CATCHING TUNA. WE'VE HAD SUCH AN INFLUX OF WARM WATER NEAR SHORE, MAYBE 64 DEGREES."



FISH AND GAME

If you want to give offshore fishing a try, here are five questions to ask before booking a trip.

How long will we be out there?

If you're unsure about the experience, plan a half-day outing — you'll learn about fishing, have some fun and (hopefully) catch fish. If the mission is successful, you can move up to a full-day trip next time.

Inshore or offshore?

For your first trip, especially if you have children, consider fishing along the coast. They'll be able to see land and will have a blast watching birds and enjoying all the nearshore life and activity. As your family's comfort level grows, you can discuss options for an offshore adventure.

Charter or party?

Chartering can be expensive. For a first time out, many newbies elect to join what's called an open party vessel or head boat. These large, comfortable boats seat 40 to 50 people, their crews are trained to work with tourists and first-timers, and you'll get experience without spending a lot of money. You can buy a one-day fishing license, rent your gear at the dock, spend approximately \$50 per person, and see how everyone feels after the trip.

Which boat?

Before you spend money on a charter, make sure you are 100 percent comfortable with the captain and the vessel. Look at reviews online. Ask for referrals. Make sure the boat has a fully licensed crew. When you're on site, *go look at the boat*. Ask for a walk-through before any agreement is finalized. If the boat is clean — particularly the galley and head — you'll know the boat is well cared for.

Is catching guaranteed?

No. There are wild animals involved that don't care what you paid to catch them. If the fish aren't biting, just relax and have fun. After all, you're spending time on the water, and that's always a good thing. — H.S.



that the water temperature was 59.32 degrees and climbing. The radio crackled with other reports — 60, 61, 62 degrees — as we approached the dividing line between what the fishermen called “inside” and “outside.” Past Isla Todos Santos, which sits at

the outer edge of Bahía de Todos Santos, the seafloor plunges from 225 feet to more than 1,000 feet.

Tin Man wouldn't go all the way outside. The crew usually doesn't fish deeper than 300 or 400 feet, because they can't drop bait on the bottom in an abyss. Adjusting his course to the northwest, Lee pointed toward a flock of wheeling, diving specks.

“See the birds?” Lee asked. “The bottom here is rocky, with pinnacles. The small fish look for bait like pelagic red crabs. Then the big predator fish drive the little ones up, and the birds work that area.”

The disturbance was still a distance away, so *Tin Man*'s baitfish remained swimming in the livewell at the transom. For now.

“We use lures when we cover a lot of ground,” Lee said. “We only use baitfish when we know we can drop 'em right on top of the fish we want.”

In the distance, the sea off our port side erupted

into a frenzy of splashing, and Lee slightly adjusted his course again. I leaned far out over the rail, trying to see the source of the confusion. An enormous pod of dolphins, 100 members strong, arced and leaped through the heaving sea. I was speechless.

Said Lee simply, “We follow them too.”

A FIRST TASTE

Despite two shouts of “you've got something,” all we'd managed to land by 8:15 a.m. were two impossibly long tendrils of greenish-brown kelp. Lee suggested we fix some breakfast sandwiches.

Some fishermen think, I would learn later, that fish always bite when you're distracted by food.

We gripped our plates and bottles of water so they wouldn't tumble onto the floor as *Tin Man* crested each wave and slid into each trough.

“It's made for this,” Lee said. “I always wanted a Mikelson. I looked for four



“KEEP YOUR LINE POINTED STRAIGHT OUT FROM YOUR BODY. IT CAN GET CRAZY, SO IF YOU KEEP THAT LINE STRAIGHT AND FOLLOW YOUR FISH AROUND, YOU WON’T TANGLE THE OTHERS.”

The Hotel Coral's Marina Grill is famous for its margaritas, something you and the crew can take full advantage of after a long day of chasing fish offshore. Remember, for fishing, blue is the ideal color, but on the docks, it's green.



years. Then I found this one in Florida in 2012. I had it shipped out here.”

He began restoring it in the summer of 2013, starting with the engines, water pumps and filters. Then Lee added new electronics, transducers, wiring, rod storage and a built-in cockpit live-bait tank. The boat helped Lee fulfill his dream, harbored over the many years he worked in construction in California. Finally, he sold his partial ownership in the company, and

today he lives almost full time in Ensenada.

“Living here and going fishing, that’s all I ever wanted to do,” he explained.

Before Lee could say anything else, a shout came from the cockpit. Five adults leaped over each other to reach Alejandro just as a large fish thrashed into view. Alejandro expertly brought it to the rail and gaffed it. A California yellowtail, just shy of 12 pounds, gleamed in the morning sun.

A close relative of the amberjack, the California yellowtail is usually found up to 60 miles from shore, along offshore banks and near islands. Sometimes, you can find them in the shadow of floating mats of kelp (called paddies) or in the break where warm and cold waters meet.

“Blue water means you have a cold upwelling from the depths, rich in plankton and other life,” Lee explained. “Fish like where the warm current meets that blue cold. That’s



where they feed.”

While yellowtail love sardines and mackerel, anglers do have success with light metal lures known as “surface iron.” Let the lure sink, and then bring it in at a good clip. Be ready for a quick and powerful strike. Noting that the cockpit can get crowded and rambunctious with a fish on the line, Lee added, “Keep your line pointed straight out from your body. It can get crazy, so if you keep that line straight and follow your fish around, you won’t tangle the others.”

FISHING, NOT CATCHING

The crew brought that yellowtail aboard around

announced, grinning. “One thing you do need to remember, though, is that the fishing here is a community,” he continued. “You share your info and your numbers. If you don’t, no one will share with you.”

Surprisingly, the wind dropped in the afternoon and the seas quieted. We circled back toward Isla Todos Santos, which was now to our south, and I marveled that I could see Killers, a famous surfing site where wave faces can reach 60 feet.

Around 3 p.m., a shout rang out. It was a Pacific barracuda this time, a fish that can be easily caught with surface iron, bait and even flies and top-water plugs. Disappointed, I remarked to Lee that it

GOING TO MEXICO?

If your family is headed to the Mexican Caribbean, Los Cabos or northern Baja and you would like to give sport fishing a try, make sure you have the following:

Tourist Visa



This isn't a big deal. You automatically get this if you fly into Mexico, and you obtain one at the immigration office if you're driving across the border. Tourist visas are good for 180 days.

Fishing License

Every person on your boat must have a Mexican fishing license, regardless of age or whether they're



fishing. We purchased ours at the hotel the day before our fishing trip. You also can arrange to get your

license prior to your vacation. Visit sportfishinginmexico.com or bestbajafishing.com for details; if you're headed to Los Cabos in Baja California Sur, visit bajasursportfishing.com.

Documentation

If you're driving your car — or trailering your own boat — into Mexico, you must have the proper documents in order. The same is true if you're arriving by water. Visit mexonline.com/boatmex and mexonline.com/drivermex to learn more. An important footnote: Whether you're driving your own vehicle or a rental car, you must have a short-term Mexican insurance policy. While your U.S. auto insurance

might cover you south of the border, Mexican authorities do not recognize U.S. coverage, and so you are legally required to have Mexican insurance. Check your boat insurance policy too. — H.S.



For details on taking your own boat to the Hotel Coral & Marina in Ensenada, Mexico, scan this tag or visit boatingmag.com/trailer-boating-to-ensenada.



8:40 a.m. For the next six hours, we trolled and we waited.

“I just saw a yellowtail with his head sticking out of the water, staring at me,” a captain joked on VHF.

“That’s more than I’ve seen today,” another captain piped in with a chuckle. “His gills are flapping because he’s laughing at me.”

Listening to the chatter, Alejandro pointed to two other boats off our stern.

“They think we know something,” Lee

was a shame the sleek, shining fish would have to be thrown back. He stared at me.

“Gringos don’t usually eat them, but they make great ceviche,” he said. This was an eye-opener. I was only familiar with great barracuda off Florida and in the Caribbean. With them, ciguatera poisoning is a real risk.

“Pacific barracuda are 100 percent safe to eat,” said Ken Franke, the president of the San Diego based Sportfishing

Association of California. Good to know.

Just 15 minutes later, the shout came again, and it was my turn on the rod. I grabbed the handle and an arrowlike barracuda flipped into the air. With Tank guiding me, I carefully brought the fish toward the railing. Then its lip tore, and it vanished. That wasn’t the end of the action, however. We had company: a sea lion, trolling for a meal off our stern. The crew tried, with no luck, to scare it away.

Before long, it was time to return to the docks for the tournament awards at the Hotel Coral’s Marina Grill. Over margaritas, we

learned that our yellowtail (now a plate of fresh sashimi) won second place.

That wasn’t the only prize. I realized how fishing isn’t just about catching. It can be the best way to experience new waters. We reveled in the antics of dolphins, that sea lion and a massive blue whale that came to the surface to blow. We watched the seabirds, listened to the banter on the radio, and felt the swell of the Pacific. Best of all, I lived in the moment, because you’re never quite sure what’s coming next. “That’s the excitement of fishing,” Lee said. “Anything can happen.”

TRAILER TROUBLE

A GUIDE FOR WHAT TO DO WHEN PROBLEMS HAPPEN ON THE ROAD

BY RICH JOHNSON

At the top of the launch ramp, the trailer suddenly lurched and fell slightly to one side. In the side-view mirror, I could see one of the wheels cocked at an ugly angle. The axle had broken just inboard of the spindle, leaving the offending wheel hanging on by a thin blade of axle tubing. I was lucky.

It would be understandable to ask how having a broken axle left me feeling lucky. I look at it this way: It could have been much worse if the failure had occurred on a crowded highway at 50 mph. So I was lucky to be able to limp to a parking spot where I could work on the problem.

Boat-trailer breakdowns happen all the time. The folks at BoatU.S., who keep track of thousands of requests for roadside assistance that come through its 24-hour dispatch centers, say 77 percent of calls for help are for trailer-related problems. The rest are for problems with tow vehicles. Forty-three percent of trailer breakdowns are due to flat tires, 22 percent to failed wheel bearings, and 12 percent to failed axles. Those are the big three.



PHOTO RANDY VANCE



43

PERCENT OF TRAILER
BREAKDOWNS ARE
DUE TO FLAT TIRES

22

PERCENT TO FAILED
WHEEL BEARINGS

12

PERCENT TO
FAILED AXLES

So

what can you do to keep from making one of those phone calls? And what if, in spite of your best efforts, something does go wrong with the trailer — what are you going to do then? Here's a guide to help you handle a boat-trailer breakdown.



THE TOOL KIT

Before traveling, make sure you have tools and equipment for handling a breakdown. The kit should include:

- ▶ Spare tire
- ▶ Boat-trailer jack
- ▶ Small jack stand
- ▶ Wheel chocks
- ▶ Lug wrench (I prefer a torque wrench and a deep socket matching the lug nuts.)
- ▶ 12-volt air compressor and tire-pressure gauge
- ▶ Hammer and small block of wood (if the trailer is equipped with Bearing Buddy protectors, to aid in removal and installation)

- ▶ A set of wheel bearings (Even if you have someone else replace your failed wheel bearings, having the right set of bearings with you is an advantage.)
- ▶ Bearing grease
- ▶ Bearing/spindle nut socket extension and ratchet (or large slip-joint pliers)
- ▶ Needle-nose pliers (for pulling a cotter pin)
- ▶ New cotter pins
- ▶ Roll of paper towels or rags, and plastic bag for disposal
- ▶ Hand cleaner
- ▶ Flashlight or, better yet, a head lamp
- ▶ Safety equipment (See "Roadside Safety Tips.")



Prevention The Tire Checklist

To help prevent failure of tires, inspect them before each use of the trailer. What should you do? (Do all this to the spare tire as well.)

- Check the air pressure. The recommended pressure is printed on the sidewall. Low pressure causes excess sidewall flex and heat buildup, which leads to premature failure.
- Look for irregularities in the tread. I've had two trailer tires suffer internal ply separation (a manufacturing defect). It makes the tread look like a snake that swallowed a gopher. Replace tires that have unusual bulges, bounces or tread wobbles.
- Check to see if there are any sidewall cracks caused by age and ultraviolet exposure.
- Get the wheels/tires balanced so they don't beat themselves to death over time.



Are there any sidewall cracks in the tires caused by age or exposure to ultraviolet light?



Inspect tires for delamination, which can result in bulges or irregularities.



Pulling or backing the good tire of a dual-axle trailer up on a block is easier and safer than using a jack.



Solutions Tire Trauma

Despite preventive care, stuff happens. If the stuff that happens to you is tire-related, here's what you should do:

- Follow safety practices outlined in "Roadside Safety Tips."
- Use wheel chocks to hold the trailer steady.
- With the jack, raise the axle and remove the dead tire and wheel. If your trailer has a single axle, insert a small jack stand for additional safety.
- Install the fresh tire and wheel, gradually tightening lug nuts in a cross pattern (three times around). Torque to the specs

designated in your trailer owner's manual.

- Replace the dead tire as soon as possible so that you always have a spare ready for action.

Prevention Wheel Bearings

The things that kill wheel bearings are improper adjustment, lack of lubrication and intrusion of dirt and water (especially salt water).

- In preparation for the season, dismantle and clean wheel bearings and inspect for signs of overheating or wear. If the bearings have gotten hot, the race may be discolored. Replace if necessary.
- While the tire is off the ground, give it a spin. It should rotate freely, without any noise.
- Check the grease to make sure bearings are fully protected. Add lube as needed.
- Check bearing adjustment by jacking up each wheel, gripping the tire top and bottom and trying to wiggle the wheel. There

ROADSIDE SAFETY TIPS

If something breaks, you need to get off the road so you aren't a hazard to other drivers.

Switch on the emergency flasher, and carefully pull off the road the best you can.

When working roadside, wear a highly reflective jacket or vest. Doing so is inexpensive insurance to help prevent getting hit by a passing vehicle. It's available online at amazon.com.

Place warning devices such as flares, lights, reflective triangles, etc. behind and in front of the vehicle. If the area is safe for the use of flares, set the first flare or reflector 20 feet behind the vehicle and the rest intermittently about every 30 feet out to a distance of at least 300 feet. At night, lighted markers or flares are most effective. During daylight hours, add highly visible warning devices such as orange cones.

When using flares, realize that they can be dangerous if used improperly. You're dealing with fire and molten slag that can drip onto skin, clothing or flammable materials. Never ignite a flare near gas fumes or a liquid fuel spill. For safe use of flares:

Strike the flare and hold it away from your body, angled down to allow molten slag to drip off harmlessly without injuring your hands.

When you reach the spot where you want to place the flare, use the included stand or spike, if so equipped. Don't use flares near dry foliage, and make sure there is nothing but mineral soil or pavement beneath the flare.

Flares eventually burn out and need to be replaced. A technique for automatically igniting fresh flares is to uncap and place a second flare on the nonburning end of the flare that has been ignited, forming an "L" configuration. As the first flare burns to the bottom, it will automatically ignite the next one. Carry plenty of flares to see you through an extended emergency.

When you're ready to go, clean up the flare debris, drenching with water any fragments that are still burning. Never step on a flare in an attempt to extinguish it, because that could cause a burn injury. — R.J.



Be sure to keep all body parts as far off the road as possible to avoid danger from passing traffic.



A hammer, a block of wood and a solid tap can help in the removal of a stuck bearing protector.

should be almost zero slop. If the wheel wiggles, the bearing is too loose, so adjust the nut.

Solutions Bearing Burdens

How do you know you have a problem with a wheel bearing? Smoke and fire are good indications. A loud screeching noise is a clue, but you don't want to wait that long to know if the bearings are failing.

- During each trip, after driving 10 miles, pull off the road and feel each wheel hub for excess heat. The hub shouldn't feel like it's much above ambient temperature.
- If the hub is hot, determine if the problem is the bearing or a dragging brake. Raise the tire

WHO YA GONNA CALL?

If you have insurance with roadside assistance, call that number and explain where you are and the nature of the problem. The "big three" in the world of insurance companies that provide roadside assistance are listed below in alphabetical order.

AAA emergency road service is available 24/7 by calling 800-222-4357. The Plus RV membership costs \$125 per year and includes battery assistance, tire change, lockout service and fuel delivery coverage for eligible trailers: "boat, travel, horse, motorcycle, snowmobile, personal watercraft, golf, car or

utility" and small rental trailers.

BoatU.S. specializes in boats, trailers and tow vehicles, rendering aid through a nationwide network of more than 20,000 roadside-assist companies. The 24/7 dispatch center is reached at 800-391-4869. For BoatU.S. members, the additional cost

for trailer-assist coverage is \$14 per year. That buys assistance for flat tires, fuel delivery, lock-out service, jump-start and 100 miles of towing assistance for the boat trailer and tow vehicle (while trailering the boat) to a repair facility or safe location of your choice. In the event of a trailer breakdown that renders the trailer unable to be towed, a flatbed truck/trailer will load and haul your boat and trailer to

an appropriate repair facility.

Good Sam Club specializes in RVs but offers a nationwide network of roadside-assistance resources. Coverage costs about \$80 for first-time buyers. The 24/7 dispatch contact number is 800-765-5924. The organization offers flat-tire service, jump-start, locksmith, fuel delivery (up to 5 gallons) and towing to the nearest service facility. — R.J.



PHOTOS: (FROM TOP) RICH JOHNSON, SHUTTERSTOCK



off the ground and give it a spin. Listen — a brake will sound like fingernails on a chalkboard, and the noise will probably be intermittent; a bearing may sound like you're grinding rocks, and the noise will be more constant. A bad bearing may also result in excessive play when given the wiggle test.

- Unless you've changed wheel bearings before, it can be a tricky job. If you're not sure how to get it done, call in the pros or follow our step-by-step instructions at boatingmag.com/bearings.

Prevention Axles

What causes an axle to fail is long-term corrosion that may begin inside the axle tube.

- Prevention begins with inspection for signs of corrosion.



Regularly inspect your axles for signs of wear and tear and corrosion.

- Look for rust stains or bubbles under a painted surface.
- Tap the metal with a steel hammer — good metal rings, while rotten metal thuds.
 - Remove surface rust and scale by using a wire brush or angle grinder to scrub it.
 - If the metal is pitted but still sound enough to be saved, coat it with a product such as POR-15 (por15.com), and then paint with a top coat. That fixes the rust only on the outside, though. If metal cancer is growing inside, axle replacement is inevitable.
 - You might be able to temporarily repair a corrosion-damaged axle by welding on plate or angle iron braces, but it's better to replace the axle.



A dragging brake will sound like fingernails on a chalkboard when you spin it with your hand.

YOU MIGHT BE ABLE TO TEMPORARILY REPAIR A CORROSION-DAMAGED AXLE BY WELDING ON PLATE OR ANGLE IRON BRACES, BUT IT'S BETTER TO REPLACE THE AXLE.

The Solution Axle Accidents

If an axle breaks, limp to a safe position off the road and call for professional help (see "Who Ya Gonna Call?"). Unless you're carrying welding equipment, metal plate material and clamps, you're not going to be able to fix it yourself on the side of the road.

Order a replacement axle from the trailer manufacturer, and prepare for a fun driveway project. Note: It's easier to replace an axle if the boat is off the trailer, but it can be done either way.

Unless you're unusually fortunate, it's only a matter of time until you have an opportunity to experience a trailer breakdown of some sort. With a bit of preparation, though, you'll sail right through it. 🚤



Before raising a trailer with a rolling tongue jack, be sure to put a chock in front of it or at least one of the rear tires to prevent rolling.

Electronics



C-MAP 4D “Easy Routing” Plots Around Hazards

Jeppesen’s C-MAP 4D electronic cartography is now compatible with a wide range of Raymarine multifunction displays (including the new eS series MFDs), bringing boaters who use these products a host of innovative tools. One of the most remarkable is a navigational planning feature called “Easy Routing.” – Jim Hendricks

As most boaters know, GPS will create a course to a waypoint, but sometimes it cuts directly through an island or point of land, forcing you to manually plot a route around such hazards.

Easy Routing, on the other hand, does this automatically. When enabled with C-MAP’s 4D MAX+ chart data (a feature you activate in the menu), it plots the shortest and safest course based on a vessel’s draft, beam and height, creating a route around a landmass, shoals and other fixed navigational hazards. You indicate where you want to go, and Easy Routing draws a safe route up to 100 nautical miles in length. It will also save the route for use on future trips.

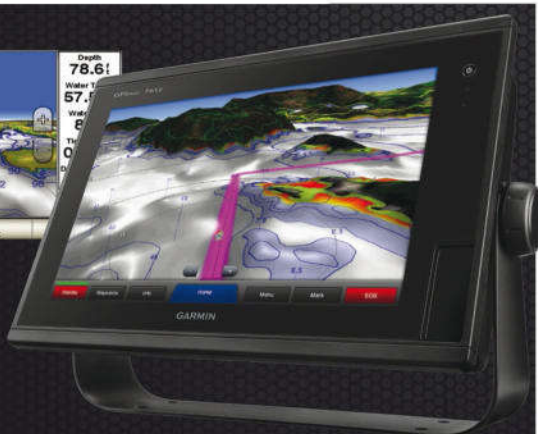
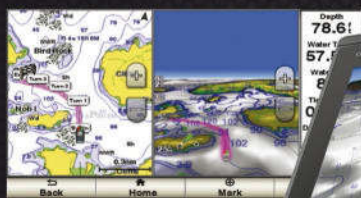
C-MAP 4D is compatible with Raymarine MFDs sold after December 2011 but requires an upgrade to the latest Light-House II operating software, available for free at raymarine.com. C-MAP 4D full-feature electronic cartography starts at \$199.

Electronic Routing

Most boaters I know rarely bother with the route function in their chart plotters. If they have to run a circuitous route and can’t eyeball it, they enter a waypoint for each leg.

Utilizing electronic chart data, a route function on a plotter does the same thing but allows you to plan your trip, so you aren’t fiddling with your electronics while underway — a distraction from maintaining a prudent lookout.

Touch-screen displays make route planning simple. Many plotters allow you to tap the screen to create points around charted hazards such as shoals and headlands, and then the machine connects the dots to create a course. It’s even easier with advanced chart plotter/electronic chart combinations such as Garmin



BlueChart g2 Vision and Raymarine C-MAP 4D. The Auto Guidance and Easy Routing features, respectively, create safe routes automatically. Safety depends on the most current chart data and critical vessel information, including draft and height. (Always review routes before running them.) Once you do this, these systems will figure out the shortest and safest route. — J.H.

Ask Ken



CI installed a new PL-259 connector on my radio antenna’s coaxial cable using solder and crimp-on connectors. Yet, when I screw the threads of the connector’s shell onto the back of the radio, it goes silent. Am I shorting out the connectors?

AYou may not have installed the connector properly. When the connector’s shell is screwed onto the radio’s antenna receptacle, a tuned circuit for the reception of VHF marine frequencies is made through the antenna, which helps to silence unwanted noise and increase the number of VHF radio frequencies.

I do not like crimp-on connectors. I have seen too many failures. Soldering a PL-259 radio antenna connector (pictured above) on an antenna cable may be a challenge if you haven’t done one before. For tips, check out our new video on how to install a PL-259 connector at boatingmag.com/solder-vhf-antenna-connector.

— Ken Englert

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For more exclusive electronics content, visit boatingmag.com/askken.



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BY RANDY VANCE

Chart-Plotter Sonar Combos for \$600

Not everyone needs a chart plotter with a 12-inch touch screen, backed by six black boxes and networked to two or three more displays. Sometimes, a single, simple screen on the dash with sonar and GPS is elegantly functional. In reviewing the marketplace, we identified units with far more than just a chart and sonar reading. We found four for under \$600 and matched them up to help you decide what you need.



Humminbird

HELIX 7 DI GPS

\$499

The Skinny

Humminbird quietly nibbles away at the competition with new product innovation, great features and a wide screen. It may be too quiet; it's easy to forget Humminbird was a front-runner with side-scanning sonar and scroll-back features associating GPS position data with sonar data. HELIX 7 DI GPS is a chart plotter and high-definition sonar, boasting down-imaging and a temperature probe, all in one box for a startlingly low price. It is compatible with Humminbird's AutoChart, allowing users to privately create highly detailed bathymetric maps with sonar data recording with GPS coordinates for each point. Nobody else sees your treasured new spots but you — and your lucky friends. It is both flush-mountable

and gimbale-mountable. Easy-to-connect friction cable plugs make removing it for security a snap.

Test Reflections: We ran all units simultaneously, and we allowed auto settings to filter unit-to-unit interference — it had excellent filtering. Its screen gave the brightest and widest field of view of all models. Screen navigation was easy, once we "hid" unwanted views in the menu.

Extra Points: Just press "mark" to create waypoints and simultaneous screen shots — easiest of the test field.

► **SCREEN SIZE/RESOLUTION (DIAGONAL):** 7 inches/480 x 800 pixels ► **SONAR RECORDING FOR MAPPING:** Yes ► **GPS CHANNELS:** Not available ► **DOWN-SCANNING:** 75 degrees at 455 kHz, 45 degrees at 800 kHz; 350 feet ► **STANDARD SONAR:** 200 kHz, 455 kHz at 28 degrees; 600 feet ► **TRANSDUCER TYPE:** XNT 9 DIT; transom mount

► **WATER TEMP SENSOR:** Yes ► **IPX RATING:** IPX7 ► **CARD SLOT:** MicroSD ► **CHART COMPATIBILITY:** Humminbird UniMap is standard; Navionics Gold/HotMaps, Humminbird AutoChart and Humminbird LakeMaster charting are optional ► **STORAGE:** 2,500 waypoints, 47 routes with 50 waypoints, 1 million track-log points ► **SONAR POWER OUTPUT:** 500 watts RMS; 4,000 watts peak to peak ► **WARRANTY:** 1 year ► **SCREEN SHOT CAPABLE:** Yes

GPS CONNECTION SPEED



PAGES ACCESS



SCREEN BRIGHTNESS



CHART OPTIONS





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HOW WE TESTED

POINTS OF COMPARISON

Here are specifications that we think are most important:

- More GPS channels means quicker start-ups and enhanced reliability, but our tests revealed that some with the most channels didn't connect up first.
- Social mapping or sonar recording allows users to make their own far-more-detailed bathymetric maps of their favorite waters.
- With screen size, bigger is better.
- The brighter the screen the better.
- Down-scanning takes a 50- to 60-degree fan-shaped scan of the bottom with a signal that is only about 2 inches wide, providing fantastic detailed bottom imaging of structure.
- Most inland boaters don't need to scan 600 feet or more, but the ability to do so reflects the power of the system and its ability to capture targets.
- Memory size of each unit is reflected in the number of waypoints, routes and tracks it can record. Only Raymarine allowed storage to overflow to a microSD card.
- Screens can be polarized, blocking your image when wearing polarized sunglasses — none of our displays exhibited significant impediment and were not scored.
- Viewing angles once were narrow — these units were all readable from any practical viewing angle.

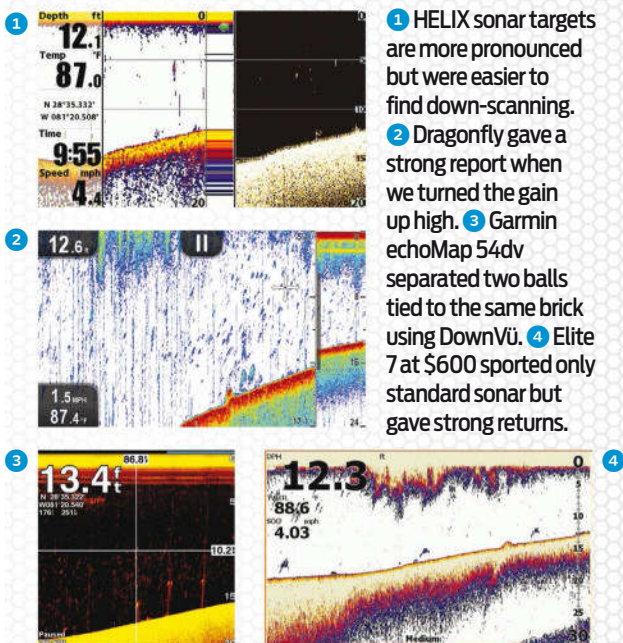
HOW WE SCORED

GPS CONNECTION SPEED We checked the time to achieve a GPS fix. Faster is better. The fastest got three points.

SCREEN BRIGHTNESS The brightest scored three points.

PAGES ACCESS This is a bit subjective, but usually fewer button taps to a particular screen equated to easier accessibility. The easiest access received three points.

CHART OPTIONS We think more chart options are better, allowing versatility for users. Offering Navionics plus C-MAP options earned three points.



Raymarine

Dragonfly 5 Pro Sonar/GPS

\$599

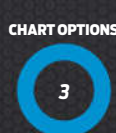
The Skinny

The Dragonfly series is Raymarine's new answer for small-boat operators who need Raymarine's professional technology in a small dash-top package. The high-resolution screen is crisp. Raymarine's LightHouse system interface is easy to use and logical to learn — earning the industry interface buzzword *intuitive*. Both CHIRP sonar (1,000 feet) and CHIRP DownVision (600 feet) are easy to bring up and interpret. Dragonfly receives Russian GLONASS satellites as well as U.S. GPS satellites. This is the only unit in this class boasting Wi-Fi to tablet or smartphone connectivity to allow sharing of screen content with crew on their Wi-Fish app-equipped device. More impressive, the device can display a different sonar pane than what is visible on the Dragonfly, and you can command the system via a connected smartphone. You can create your own bathymetric charts using the optional Navionics SonarChart Live app.

Test Reflections: The free Wi-Fish smartphone/tablet app worked great, giving remote controls and an additional display. Selecting menu pages was made complicated by a time lag between the key command and its appearance on the screen. Once we got the timing down, and waited, the interface was logical, still earning its "intuitive interface" praise. The screen was crisp and clear but slightly dimmer than its competitors'.

Extra Points: Dragonfly's single, combined transducer/power wire is almost as easy to remove and replace as it would be with Garmin's snap-in mount. The ball-joint mount can face any way.

- **SCREEN SIZE/RESOLUTION (DIAGONAL):** 5 inches/800 x 480 Wide VGA
- **SONAR RECORDING FOR MAPPING:** Yes, with Navionics SonarChart and SonarChart Live
- **GPS CHANNELS:** 72
- **DOWN-SCANNING:** CHIRP, 60 degrees at 600 feet (frequency unpublished)
- **STANDARD SONAR:** CHIRP, 25 degrees at 900 feet (frequency unpublished)
- **TRANSDUCER TYPE:** CPT-DVS DownVision; transom mount
- **WATER TEMP SENSOR:** Yes
- **IPX RATING:** IPX6 and IPX7
- **WI-FI:** Stream to tablets or smartphones
- **CARD SLOT:** MicroSD
- **CHART COMPATIBILITY:** Navionics+, C-MAP and Raymarine LightHouse vector and raster charts
- **STORAGE:** 3,000 waypoints, 0 routes, 15 tracks with 10,000 points (additional storage with microSD card)
- **SONAR POWER OUTPUT:** Not published
- **WARRANTY:** 1 year
- **SCREEN SHOT CAPABLE:** Yes





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\$499

The Skinny

This unit addresses both U.S. GPS and Russian GLONASS positioning satellites for added accuracy. Enhanced Auto Guidance chooses your route based on destination, draft and bridge clearance, avoiding charted hazards — all you do is tell it where you want to go and it plots the most direct, safe course to your destination. It supports AIS and has onboard tide tables. Social mapping is enabled by overlaying sonar tracks on top of Google Maps. Track logging is viewable on the optional Home Port trip-planning app that allows integration of sonar data into Google Maps. A single CHIRP transducer supports DownVü and traditional HD-ID sonar. DownVü scanning employs a wide port-to-starboard beam that sweeps bottom structure like a wide paintbrush, rendering the lifelike images of structure and fish. Auto gain and sensitivity settings were ideal.

Test Reflections: User interface is easy to learn and remember. The home button brings up the main menu, and logical selections are listed and easy to select with the toggle button. Its GPS receiver is so strong it attained position fix nearly instantly — under a roof.

Extra Points: Garmin's echoMap 54dv offers the only snap-on, snap-off gimbal mount for easy removal and secure storage. It swivels for optimum viewing angle and can turn 180 degrees, allowing visibility from the bow, stern or helm.

► **SCREEN SIZE/RESOLUTION (DIAGONAL):** 5 inches/480 x 480 ► **SONAR RECORDING FOR MAPPING:** Yes, appends Google maps ► **GPS CHANNELS:** 12 ► **DOWN-SCANNING:** CHIRP, 260/455 kHz, 1,100 to 2,300 feet, 30 to 51 degrees ► **STANDARD SONAR:** CHIRP, 50/200 kHz, 29 degrees, 1,100 feet/salt water; 2,300 feet/fresh water ► **TRANSDUCER TYPE:** GT21-TM; transom mount ► **WATER TEMP SENSOR:** Yes ► **IPX RATING:** IPX7 ► **CARD SLOT:** MicroSD ► **CHART COMPATIBILITY:** BlueChart g2 coastal is standard; g2 Vision and LakeVü HD Ultra, optional ► **STORAGE:** 5,000 waypoints, 100 routes, 50 tracks with 50,000 points ► **SONAR POWER OUTPUT:** 500 watts RMS; 4,000 watts peak to peak ► **WARRANTY:** 1 year ► **SCREEN SHOT CAPABLE:** Yes

GPS CONNECTION SPEED



SCREEN BRIGHTNESS



PAGES ACCESS



CHART OPTIONS



Lowrance

Elite 7

\$599

The Skinny

Lowrance chart plotters keep getting more powerful and richer in features, but smaller and lower in price. Navigation versatility comes from its compatibility with the widest selection of digital charts, and they're easily purchased online from the GoFree store. That lets the skipper choose the charts that suits his or her navigation style. Standard sonar beam with the penetrating return of CHIRP sonar can be easily enhanced with an optional DownScan HDI transducer. Social charting through the GoFree store online is extremely user-friendly, enabling boaters to create astonishingly detailed charts with their recorded sonar readings. With TrackBack, scroll the sonar screen back and touch any sonar structure to immediately create a permanent GPS waypoint.

Test Reflections: Its wide, bright screen brings great value. It wouldn't surprise us to see a price reduction in the face of competition, perhaps making DownScan standard instead of optional. Sonar readings were crisp, bright and clear. Navigating screens via the Pages button offered clear access to the views we wanted. An exit key to leave cursor mode or to "Find Ship" would streamline the interface.

Extra Points: GoFree store gives free access to custom maps created with sonar recordings; upload and download via a microSD card. It was quick to get a GPS fix even when it was under a garage roof.

► **SCREEN SIZE/RESOLUTION (DIAGONAL):** 7 inches/800 x 480 ► **SONAR RECORDING FOR MAPPING:** Yes, via GoFree store ► **GPS CHANNELS:** 16 ► **DOWN-SCANNING:** CHIRP, optional ► **STANDARD SONAR:** CHIRP, 83 kHz, 200 kHz at 22 degrees, 1,000 feet ► **TRANSDUCER TYPE:** HST-WSBL; transom mount ► **WATER TEMP SENSOR:** Lowrance HDI 83/200, 455/800 ► **IPX RATING:** IPX7 ► **CARD SLOT:** MicroSD ► **CHART COMPATIBILITY:** Lake Insight and Nautic Insight Pro and HD, Navionics Gold and HotMaps Premium, Fishing Hot Spots Pro and Jeppesen C-MAP MAX-N ► **STORAGE:** 3,000 waypoints, 100 routes, 100 tracks with 10,000 points ► **SONAR POWER OUTPUT:** 500 watts RMS ► **WARRANTY:** 1 year ► **SCREEN SHOT CAPABLE:** Save to microSD ► **SOCIAL MAPPING CAPABLE:** Yes

GPS CONNECTION SPEED



SCREEN BRIGHTNESS



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CHART OPTIONS



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This watch doesn't do dainty. And neither do I. Call me old-fashioned, but I want my boots to be leather, my tires to be deep-tread monsters, and my steak thick and rare. Inspiration for a man's watch should come from things like fast cars, firefighters and power tools. And if you want to talk beauty, then let's discuss a 428 cubic inch V8.

Did I mention the \$59 price tag? This is a LOT of machine for not a lot of money. The **Stauer Centurion Hybrid** sports a heavy-duty alloy body, chromed and detailed with a rotating bezel that allows you to track direction. The luminous hour and minute hands mean you can keep working into the night. And the dual digital displays give this watch a hybrid ability. The LCD windows displays the time, day and date, includes a stopwatch function, and features a bright green electro-luminescent backlight. We previously offered the **Centurion** for \$199, but with the exclusive promotional code it's yours for **ONLY \$59!**

No matter what, this watch can keep up. Thanks to the Stauer 30-day Money Back Guarantee, you've got time to prove it. If you're not totally satisfied, return it for a full refund of the purchase price. You also get a 2-year replacement guarantee on both movements. But I have a feeling the only problem you'll have is deciding whether to keep the **Stauer Centurion** on your dresser or tucked inside your toolbox.



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Following Seas

By David Seidman



◀ **Bad ideas** with a small kernel of probability never completely die.

for making big money in accordion repair, I found this: “Wave Power Runs Model Boat.” Some Gyro Gearloose type with a bowtie was claiming that his 1-foot-6-inch model did 5 mph. “The slightest motion of the water and the interconnected fins transform vertical motion into a pulse that drives the boat.”

Like the other articles on making a submarine from a propane tank and harvesting sap from telephone poles, it sounded a tad unlikely, and we never heard of the idea again. Still, bad ideas with a small kernel of probability never completely die. Which is what motivated professor Yutaka Terao, of Tokai University in Shizuoka, Japan, to design the first full-size, wave-powered boat. Two pivoted horizontal fins at the bow flap up and down with the waves. Using levers and springs, this motion is then transferred back to the fins to generate a dolphinlike kick that propels the boat forward.

It sounds crazy, but back in 2008 the 31-foot aluminum catamaran *Suntory Mermaid II* made a proof-of-concept 3,800-mile passage from Honolulu to Japan. It took 110 days at an average speed of 1.5 knots, but the boat made it solely on wave power. By comparison, a typical diesel-powered trawler could have made the trip in about 20 days, but it might use 1,600 or more gallons of fuel — if its tanks could hold that much.

Has the dream of something-for-nothing been realized? The more waves, the more power? Up and down, up and down, up and down — until you barf? Not for me, thank you. The price of this kind of free power is way too high. Which is why, when I see you outside the inlet, I’ll have huge metal plates hanging off the side of my boat and some thick wires. Hey, I’ve got my dream — now go get your own.

ILLUSTRATION: TIM BOWER

Freedom of the Seas

WHY IT ISN’T FREE

SOMETHING FOR NOTHING, THAT’S WHAT WE WANT. There are those of us who want it so badly we’ll work our behinds off for long hours to get it. Which kind of defeats the point. If you’re out looking for a holy grail, though, you’re probably not too reality-based to begin with. For most of us it’s probably best to accept things the way they are and just get on with our lives. But God bless the few loonies who refuse to give in. Like me.

My goal is a free ride: harnessing the elemental forces of nature to power my boat. To this end I’ve discovered an unlimited source of power. When different metals are immersed in salt water, one gives up electrons to the other (that’s electricity) and one metal begins to fall apart (that’s bad if it’s your propeller). But it could be good if that electrical energy is used for something other than making your \$500 prop look like a teenager’s pimply cheek.

I measured the output between a steel and a brass screw to be a little under 1 volt. With metals farther apart on the galvanic scale, say zinc and graphite, I might get more. With enough metal underwater I might even get enough to run an electric motor. Sure, the voltage is puny, the amperage next to nothing, and I’m no electrical engineer (I only play one in a magazine) — but it just might work.

Or maybe not. However, a real engineer, Vyasateja Jyothigowdanapura of North Carolina State University, has another approach. He’s designed a pontoon boat made from, and powered by, piezoelectric materials. When stress is applied to this stuff, it generates an electrical charge. Mr. J says that waves hitting the pontoons should generate enough power for two 150 hp electric motors. A much more elegant solution than mine — and probably just as unrealistic. However, for guys like us reality is relative, and the drive to get something for nothing is too strong to deny.

The golden age for crackpot something-for-nothing schemes was in the 1930s. Looking through an April 1935 issue of *Popular Science*, next to an ad



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